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ABSTRACT

Analyzing the role of vocational training in an economic sector that is declining in Portugal, this document consists of five chapters, a bibliography, and a list of training organizations. An introduction tells why the study is important and explains that the major obstacles to development of the Portuguese textile and clothing sector are the need for training and the difficulties of providing financing. Chapter 2 discusses the general characteristics of the textile and clothing sector. Training facilities, including those in higher education, secondary education, authorized training centers, technology centers, and other organizations, are the subject of chapter 3. Chapter 4 provides an analysis of the sector by geographic region. Chapter 5 discusses anticipated changes in the textile and clothing sector and the training priorities recommended as a result. A bibliography of 30 items, most of which are in Portuguese, and a list of organizations involved in vocational training and how they may be contacted conclude the document. (CML)

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Textiles and training in Portugal

European Centre for the Development of Vocational Training

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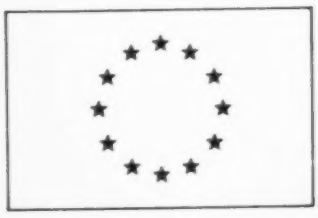

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PREFACE

This document forms part of the project "Vocational Training and its Relationship with the Employment Market " included in the CEDEFOP work programme.

The object of the project is to analyse the role of vocational training in a sector in decline and of similar size to corresponding sectors in the three youngest Community member countries.

By including these countries the project encompasses the whole Community, since it aims to promote the exchange of experience between Community specialists in order to resolve similar problems, referring especially to development and training policies which have proved successful in some member countries.

The first sector to be chosen for the project was that of textiles and clothing, at present undergoing restructuring.

The first stage of the analysis consists of preparing three documents on the evolution of the sector and training problems encountered in Spain, Greece and Portugal. These documents, which contain information relating to regions and the country as a whole, enable the problem to be analysed in greater depth during the second stage.

This report relates to the employment and training situation in the Textile and Clothing Sector in Portugal.

CEDEFOP, January 1987

Tina Bertzeletou
Project Coordinator

Corrado Politi
Deputy Director

INDEX

(Tables are identified by the paragraphs in which they are found)

Page

1. INTRODUCTION 1

2. GENERAL CHARACTERISTICS OF THE TEXTILE AND CLOTHING SECTOR 5

(2.1). 5

2.1.1. - General considerations 5

2.1.2. - The current situation 6

2.1.3. - Some statistics 7

2.2. Changes in the sector up to 1986 8

2.2.1. - Changes in the sector as indicated by some information & other indicators 9

2.2.2. - Analysis of the economic situation in Portugal 22

2.3. Details of the enterprise & employment structure in Mainland Portugal as shown from the 1985 "Quadros de Pessoal" and other information 26

2.3.1. - Size of enterprise per activity, number and percentage distribution by size and activity category 26

2.3.2. - Distribution of establishments per activity as a percentage of size group 29
2.3.3. - Number of persons and percentage distribution per activity according to qualifications 31
2.3.4. - Number of employees and other workers per activity and qualification 36
2.3.5. - Number of persons in the textile industry according to their positions 37
2.3.6. - Percentage distribution of employees and other workers per activity and education 39
2.3.7. - Percentage distribution of employees and other workers per activity and length of service ... 43
2.3.8. - Average monthly remuneration (profit) of employees and other workers per activity and qualification (in escudos) 46
2.3.9. - Home workers in the Textile and Clothing Sector 47
2.3.9.1. M.T.S.S. Statistics Service Survey (Mainland Portugal) 48
2.3.9.2. Report of the Direcção Geral do Emprego (Employment Board) 49

2.3.10.- Time contracts in the Textile and Clothing Sector 51
2.3.11.- Number of persons per activity and value of sales (000000 escudos) 53

3. TRAINING RESOURCES IN THE TEXTILE AND CLOTHING SECTOR 56

3.1. Higher Education 57
3.1.1. - University of Minho 57
3.1.2. - University of Beira Interior 60

3.2. Secondary Education 63
3.2.1. - Technical vocational education 64
3.2.1.1. Textile techniques and production 65
3.2.1.2. Textile design techniques. 68
3.2.1.3. Textile chemistry..... 69

3.3. Authorized Centres 70
3.3.1. - Textile Industry Vocational Training Centre 71
3.3.2. - South Portugal Authorized Clothing Training Centre 74

3.4. Technology Centres 76

3.5. Various Organizations 80

4. REGIONAL ANALYSIS 82

4.1. Introduction 82

4.2. Region 1 - Beira Interior and its wool industry 91

4.2.1. - Enterprise structure 91

4.2.1.1. Commercial aspects final products 92

4.2.1.2. Raw materials 94

4.2.1.3. External markets 94

4.2.2. - Technological aspects 95

4.2.3. - Financial/economic aspects 98

4.2.4. - Labour aspects in an overall assessment 101

4.2.5. - Changes in the employment situation over the next seven years 104

4.2.5.1. Effect of restructuring mechanisms 104

4.2.5.2. Effect of new technology .105

4.2.5.3. Growth of enterprises 107

4.2.5.4. Anticipated evolution 107

4.3. Region 2 - Bacia do Ave and its Cotton Industry 107

4.3.1. - Enterprise structure 108

4.3.1.1. Commercial aspects 109

4.3.1.2. Raw materials 110

4.3.1.3. External markets 111

4.3.2. - Technological aspects 112
4.3.3. - Economic/financial aspects 115
4.3.4. - Labour aspects in an overall assessment 117
4.3.5. - Changes in the employment situation over the next seven years 120
4.3.5.1. Factors influencing the employment situation 120
4.3.5.2. Changes anticipated 121

5. ANTICIPATED CHANGES IN THE TEXTILE AND CLOTHING SECTOR 123

5.1. The Sector within the Community.....123

5.2. Trends in industrial employment and vocational training policies 126

5.3. Estimate of vocational training and other activity requirements 133

5.4. Conclusions and establishment of priorities 153

6. BIBLIOGRAPHY 159

7. ORGANIZATIONS INVOLVED IN VOCATIONAL TRAINING 163

Activity codes used in tables

3.21100 Preparation, spinning, weaving cotton fibres
2.21110 Preparation textile fibres
3.21120 Spinning, weaving, finishing wool and mixed fibres
3.21130 Spinning, weaving, finishing cotton and synthetic fibres
3.21141 Spinning, weaving, finishing jute and mixed fibres
3.21142 Spinning, weaving, finishing other soft fibres with the exception of jute
3.21150 Manufacture of trimmings
3.21160 Lace making
3.21190 Spinning, weaving, finishing textiles
3.21210 Manufacture canvas and similar fabric articles
3.21220 Manufacture of fabrics for domestic use
3.21230 Embroidery
3.21240 Sack making
3.21290 Manufacture textile articles
3.21300 Woven fabric manufacture
3.21400 Soft furnishing manufacture
3.21410 Carpet manufacture
3.21420 Manufacture of straw and similar material articles
3.21510 Cord and twine making
3.21520 Netmaking
3.21590 Rope making
3.21900 NE textile manufacture
3.21910 Oiled cloth manufacture
3.21920 Cutting and preparing skins
3.21990 Manfacture of other fabrics
3.22010 Making clothes to measure

3.22020 Mass production of clothes

3.22030 Hat making

3.22040 Manufacture of gloves and narrow fabrics

3.22090 Manufacture of clothes

I - INTRODUCTION

The problem dealt with in this final report on "TEXTILES AND TRAINING IN PORTUGAL" is of interest for the following reasons:

a) The textile sector plays an important part in Portuguese industry since it is a large employer of labour, makes a considerable contribution to the GNP and its products constitute a substantial proportion of the nation's exports.

b) Its importance increases when account is taken of the need for restructuring, made more urgent because of the necessity to compete with cheaper products from less developed countries and the greater productivity of industries in more developed countries. The inevitable adverse effect on employment, the crisis in regions where enterprises in the sector provide almost all the industrial employment and the various difficulties encountered by most enterprises give cause for consideration whether the authorities should intervene in order to promote and facilitate restructuring and reduce the adverse effect of these factors on society instead of leaving evolution to market forces.

c) The lack of vocational training to provide certain skills has been found to be one of the principle shortcomings and an obstacle to essential changes in the sector, especially at a time of technological progress

and changes in the composition of markets for suppliers and customers. In addition, vocational training is a key factor for workers in obtaining employment and/or retraining those who have been made redundant. The training system will therefore have to be capable of:

i) satisfying present and future requirements
ii) promoting refresher courses and retraining, associated where necessary with vocational courses and courses on the maintenance of performance.

d) The framework established by membership of the European Community with its new opportunities and limitations resulting from a range of industrial and employment policy regulations, and the fact that the Community has traditionally been the best market for Portuguese textiles are factors which explain why CEDEFOP wishes to understand the situation in the Sector and the role the training system fulfils and can fulfil when the changes planned or associated changes have been implemented, insofar as they contribute towards an easy transitional stage and nullify the effects on society

A start will be made to discussing the questions implicit in the last paragraph - which basically consists of attempting to fit vocational training into the process of diagnosing and evolving/restructuring the Portuguese Textile and Clothing Sector wihin a situation in which great changes are anticipated - by describing the principal features of the Sector and enterprises forming it, attempting to illustrate

an employment structure and skills associated with the productive system in order to identify the effect of redundancy, retraining and development foreseeable on a short or medium term basis.

The authors have therefore endeavoured to demonstrate that the need for training together with difficulties of providing finance are the major obstacles to positive development of the Portuguese Textile and Clothing Sector.

Thus, after attempting to identify training requirements in the Sector on the basis of knowledge of its past development, they foresee the way in which vocational training can contribute towards facilitating restructuring the Sector and reducing problems resulting from redundancy, principally by resorting to mobility, refresher courses, retraining and the payment of compensation.

From this it will be possible to determine the priorities and qualifications necessary for the anticipated development of the Sector and the types of vocational training activities (as specifically as possible) in relation to existing capacity and facilities to be created. This will result from knowledge of association of the Sector's development with the industrial and political employment and vocational training policy, taking into account different centres of interest.

The importance of identifiying the persons concerned with vocational training problems should also be emphasized since

it is they who are responsible for development of the sector and all measures will have to take into consideration their reactions and positions. In addition, it is only they who can provide information on the quality of training in the sector.

Enterprises in the Sector are associated with regions, e.g. 80% of the cotton sub-sector is concentrated in the Bacia do Rio Ave, and 70% of the wool sub-sector in Beira Interior. Since these are the two sub-sectors with most problems, the effect of their concentration is of great importance to this study. Finally, an attempt will be made to give an account of associated initiatives and other information considered relevant.

2 - General characteristics of the Textile and Clothing Sector

2.1.1 General considerations

Recognition, sometimes excessive, is given to the importance of the Textile and Clothing Sector in Portugal as a manufacturing industry and to the role it plays in the economy and economic development of the country. In addition, a large part of the sector is concentrated regionally, with an obvious effect on existing and forseeable problems. From our knowledge we believe that, because lack of skills and poor productivity, competition from countries less well developed and the current financial difficulties of enterprises, profound structural alteration is generally accepted as essential and inevitable.

Enterprises may be divided into three types, especially in sectors where the crisis is fairly general:

a) those capable of carrying out operations necessary for adaptation without aid;

b) those which cannot be considered viable, even with State aid, which would only make them artificially viable since it would have to be excessive;

c) economically viable firms which do not possess adequate resources to effect the changes needed.

The employment and vocational training problems in these three cases will be different.

2.1.2 The current situation

The following features are identifiable in the Textile and Clothing Sector:

a) Considerable differences in the various criteria for each sub-sector, among which are economy, financial situation, employment, regional concentration, exports, imported components, dynamism;

b) Different problems in enterprises in each sub-sector, and, with the present and anticipated competition in the respective markets, different development prospects;

c) Sustained production and even growth in the sector has depended on low wages, flexibility of time contracts and devaluation of the currency, which restores competitiveness of exports (principally to EEC countries). On the other hand, there are difficulties in obtaining finance, high financial charges, difficulties in maintaining purchasing power and the results of the crisis concerning customers and suppliers;

d) In addition to these factors providing a favourable situation for retraining, must be added the subsidies being paid to make it possible to retain employees until

1985, and lack of agreement by the social partners over the period of restructuring.

2.1.3 Some statistics

According to the Quadros de Pessoal(1) in 1985 there were 3 894 enterprises in the Textile and Clothing Sector, or 4.1% of enterprises in Mainland Portugal and 16.5% of all manufacturing enterprises.

The 243 021 persons employed in the Sector represented 13.2% of employees in enterprises in Mainland Portugal and 28.5% of workers in manufacturing industries.

There are 30 sub-sectors with six figure code numbers in the Economic Activities Classification.

The Textile and Clothing Sector accounts for around 20% of the GNP and 29.5% of all exports; exports from the Sector are more than double those from any other sector.

In the same year the average basic monthly pay for textile workers was 18 087 escudos (73.2% of the average basic monthly pay of wage earners and 67.8% of that of tailors,

(1) The Quadros de Pessoal (Employment Statistics) are a source of information produced annually and sent to the Statistics Department of the Ministry of Employment and Social Security. Processed results, which are obtainable on request, appear in various quarterly publications on subjects for which the Ministry of Employment and Social Security is responsible.

machinists, furriers, upholsterers and similar workers).

At the end of April 1986 there were 523 unemployed seeking their first employment as textile or similar workers and 7 007 unemployed from this sector seeking new employment. Equivalent figures for tailors, machinists and similar workers were 3 389 and 13 549 respectively. The number of jobs available in the former was 34 and 485 in the latter.

Out of a total of 3 809 cases of wages owing reported to job centres in compliance with the law, 554 cases were from the Sector (including the leather sub-sector) .

2.2 Changes in the sector up to 1986

It may justifiably be said that these changes include those which took place in the years prior to 1986 since code numbers are now different and it is sometimes difficult to make comparisons.

The object however is to investigate the current situation in relation to the evolution of sector characteristics most closely associated with the points we consider most relevant - the relationship between qualifications and the structure of the sector.

2.2.1 Past changes in the sector as indicated by certain information and indicators

Changes in production from the major sub-sectors at current prices (in 10^6 escudos) in relation to the last figures available up to 1984 were as follows

Table 2.2.1.1

Year	1977	1978	%	1979	%	1980	%	1981	%	1982	%	1983	%	1984	%
Wool	6257	7785	24.4	11 328	45.5	14 136	24.8	14 497	2.6	16 372	12.9	20 251	23.7	27 949	38.0
Cotton	23 309	34 730	27.2	50 864	46.5	68 486	34.6	74 472	8.7	86 845	16.6	117621	35.4	162907	38.5
Knitted fabrics	9 609	12 574	40.0	17 598	39.3	24 510	39.3	27 392	18.0	33 074	20.7	49 882	50.8	67 304	34.9
Clothng	10 267	13 466	31.2	21 371	58.7	26 635	24.6	30 564	14.8	38 288	25.3	41 913	9.5	54 113	29.1

Source: D.G.C.I. (Direcção Geral do Comércio Interno)

Although these figures correspond to production valued at market prices under different situations, the following conclusions may be drawn:

a) Growth was considerable. In 1984 production for the 4 sub-sectors was 4.5, 6, 7 and 5.3 respectively times that for 1977. In real terms (1977 constant prices) production had fallen considerably. Corresponding figures were 0.04, 0.39, 0.64 and 0.23, which in the case of wool amounted almost to stagnation. In real terms it was only in the wool sector that production

increased up to 1979, fell until 1982 and then recovered.

b) In 1981 there was a general fall in nominal production growth rates and an accentuated fall in real production, clearly showing the dependence of the sector on the international market, the inflationary situation and its relationship with currency parity. In July 1980 devaluation of the escudo eased while its value increased against the French franc and the German mark. In 1981 there was an overall reduction (by 6.6%) of competitiveness of the national economy, with serious consequences for the Textile and Clothing Sector.

c) The relative importance of the 4 sub-sectors in terms of structure and market prices - factors which include most aspects relevant to an evaluation of the situation - is shown in the next table.

Table 2.2.1.2

YEAR	1977	1984
Wool	11.7	9.0
Cotton	51.1	52.2
Knitted fabrics	18.0	21.6
Clothing	19.2	17.3
TOTAL	100.0	100.0

Source: I.N.E.

In spite of the reduction in the size of the wool sub-sector the size of the cotton sub-sector remained the same. It is these two sub-sectors, which constitute a large part of the Textile and Clothing Sector, which are experiencing most of the currrent problems

The proportion of production exported is shown in the table on the next page:

Table 2.2.1.3

YEARS	1977	1978	1979	1980	1981	1982	1983	1984	Exports 1985/1984
Wool	4.5	4.3	4.8	5.4	5.0	5.3	7.4	9.	25.6
Cotton	30.9	37.6	21.2	31.6	33.2	39.3	43.6	43.7	5.4
Knitted fabrics	35.7	44.5	57.6	59.7	63.2	77.4	73.5	76.3	30.7
Clothing	47.4	57.0	63.0	61.6	57.6	66.0	87.6	92.6	58.8

Source: I.N.E., I.T.E. B. Portugal

From this table it will be seen that:

a) Exports of woollen goods and cotton goods produced increased considerably more slowly than those of knitted fabrics and clothing. There was even a fall in the exports of the first two from 1984 to 1985.

b) The major exporting sectors of the Portuguese economy are the most labour intensive and have fewer problems of survival.

Values (in million escudos) are shown in the next table in relation to employment and GDP at current prices.

Table 2.2.1.4.

Yrs	1977		1978		1979		1980		1981		1982		1983		1984		1985	
	Emp	GDP	Emp	GDP	Emp	GDP	Emp	GDP	Emp	GDP	Emp	GDP	Emp	GDP	Emp	GDP	Emp	GDP
Wol	22 460	2 672	21 556	3 223	22 272	4 508	21 884	5 191	20 988	5 187	20 174	5 338	18 696	6 378	17 516	9 958	18 011	-
Cot	166 570	9 883	169 341	13 709	171 274	19 940	178 718	26 980	176 354	28 273	173 224	3 175	173 846	39 226	173 956	54 492	169 331	-
Knt																		
Fab	29 220	3 748	32 060	4 800	32 097	5 876	32 148	8 330	33 148	9 529	33 366	11 990	32 611	14 223	31 389	16 671	30 035	-
Clh	32 106	4 038	39 960	4 770	40 709	7 948	40 903	9 120	40 309	10 057	40 779	14 717	43 219	18 927	45 034	24 768	43 384	-

Source: D.G. Indústria

It will be seen from this table that:

a) There was a moderate increase in employment in all sub-sectors except wool where there was an appreciable reduction;

b) The GDP per worker was generally fairly low and increased at a similar rate in all sub-sectors. Cotton has the highest GDP - the result of high capital investment;

c) The greatest increases in employment and GDP were in the clothing sector.

The next table complements the last by showing changes in Gross Production Value (GPV) and Gross Domestic Product

(GDP) and employment in 1984 for the various industries in the sub-sectors.

Table 2.2.1.5

CODE	ACTIVITY	1984 (1000 escudos) (units) GPV	GDP x 100 / GPV	Workers
3.211.2.0	Spinning, weaving & finishing wool & mixed fibres	27 949 048	32.1	17 516
3.211.3.0	Spinning, weaving & finish-cotton, artificial, synthetic & mixed fibres	162 907 640	34.7	73 956
3.211.4.0	Spinning, weaving & finishing soft & mixed fibres	1 526 637	39.1	1 034
3.211.5.0	Manufacture of trimmings	2 400 011	38.8	1 702
3.211.5.0	Lace making	870 193	39.6	566
3.212.1.0	Manufacture of canvas & similar goods	191 593	47.5	218
3.212.3.0	Embroidery	2 067 046	68.9	1 292
3.212.4.0	Sack making	2 771 928	44.7	1 539
3.213.0.0	Knitted fabrics industry	54 112 881	30.8	31 389
3.214.1.10	Manufacture of carpets	7 841 033	31.8	3 648
3.215.1.0	Rope, cord & twine making	8 109 322	27.5	3 700
3.215.2.0	Netmaking	1 042 587	37.2	492
3.219.1.0	Manufacture of oiled & waxed waterproof fabrics	3 749 613	36.6	863
3.220.2.0	Clothing mass production	67 340 643	36.8	45 034
3.220.3.0	Hatmaking	372 178	49. 6	511
TOTAL		342 278 353	34.8	183 460

Source: D.G. Indústria

The percentage of wages in the GDP from 1977 to 1984 is shown in the following table:

Table 2.2.1.6

YEARS	1977	1978	1979	1980	1981	1982	1983	1984
Wool	91.4	79.8	65.3	71.2	81.2	91.8	87.0	64.1
Cotton	72.7	62.4	53.6	51.3	60.5	60.4	59.8	51.4
Knitted fabrics	71.2	66.8	65.9	52.5	64.9	63.7	64.6	62.9
Clothing	75.4	76.8	62.9	62.1	73.6	62.6	62.3	58.6

Source: D.G. Indústria

It will be seen from this table that:

- There is a general tendency towards a considerable reduction in the effect of wages on GDP, confirming that the latter has operated as a factor indicating adjustment of the Textile and Clothing Sector to more difficult situations;

- The effect on the wool sub-sector is clearly indicative of a general crisis. The subsequent fall may signify both the realization of investments and a reduction in staffing.

Finally, the next table enables a comparison to be made between price and deflation indexes of certain variables.

Table 2.2.1.7

Years		1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer price index (Clothing)		100	116.8	151.1	203.2	237.1	285.6	341.6	427.8	-
Import price index (a)		100	113.3	136.7	155.1	181.3	210.8	274.0	372.9	412.2
Export cost index (a)		100	124.2	162.9	197.1	213.0	250.5	330.4	430.2	524.9
Labour cost index	Wool	100	110.2	122.2	155.6	185.2	225.0	274.9	337.3	-
	Cotton	100	123.0	150	187	224	262	369.8	440.4	-
	Knitted fab.	100	108.8	131.8	171.4	205.5	251.6	309.2	367.1	-
	Clothing	100	96.8	127.4	177.9	192.6	237.9	287.4	339.0	-
Capital cost index (b)		100	135.8	143.6	143.6	147.9	162.8	192.5	212.8	-
GDP deflation index (c)	Wool	100	115.4	129.6	152.1	178.2	219.9	264.2	292.6	-
	Cotton	100	137.7	147.0	165.8	183.9	209.8	299.7	329.8	-
	Knitted fab.	100	117.7	135.8	158.2	185.9	219.4	248.6	309.8	-
	Clothing	100	105.8	133.5	169.3	180.8	209.8	251.6	286.7	-

(a) From information obtained by the D.G.C.I. on textiles and clothing.

(b) Taking into consideration interest on 2 to 5 years credit from the Banco de Portugal.

(c) Taking into consideration the cost of labour and capital indexes in accordance with the GDP structure.

Source: D.G. Industria

It is therefore obvious that changes in indexes linked to receipts have been more satisfactory than those linked to costs. Although there is a crisis in the Textile and Clothing Sector, it must be related overall to problems not responsible for changes in internal or external market prices, the cost of labour and capital or the true GDP content. These factors have however served to nullify other negative effects and possibly delay the need for restructuring. This explanation obviously does not exclude specific errors or cases for which there is a satisfactory explanation.

Textile exports according to destination and type are shown in the table on the next page.

TABLE 2.2.1.8.

	1976		1977		1978		1979		1980		1981		1982		1983		1984	
	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos	1000 Tons	10^6 Escudos
TOTAL																		
DESTINATION	121	14 456	118	20 444	139	31 030	162	49 853	156	59 386	168	67 972	183	96 883	202	41 152	221	207 111
EEC	66	7 648	67	10 797	88	19 150	106	32 130	94	35 835	102	41 551	121	63 329	133	95 232	142	133 707
EFTA	27	4 000	23	5 612	24	6 826	29	11 758	29	15 126	28	15 707	30	22 109	31	30 553	33	43 748
REST OF EUROPE	6	415	4	416	4	435	4	431	5	691	8	1 041	10	1 247	10	1 619	13	2 542
AFRICA	6	989	10	2 378	9	2 689	9	3 127	12	4 440	13	6 752	8	4 300	10	6 818	10	9 116
AMERICA	14	678	12	1 081	12	1 702	11	2 040	13	1 867	12	2 287	11	3 101	15	5 745	20	15 894
ASIA	2	99	2	120	2	183	3	297	3	370	5	562	3	711	3	1 012	3	1 599
OCEANIA	0	30	0	35	0	42	0	52	0	56	0	72	0	86	0	172	0	545
OTHERS	0	2	0	4	0	3	0	0	0	1	0	0	0	0	0	0	0	0
COMMODITY																		
FIBRE & WASTE	4	159	1	52	3	170	5	328	5	279	11	909	11	1 079	9	1 018	8	1 183
YARN	29	1 906	34	2 540	35	3 571	28	4 798	23	4 923	21	4 892	24	6 352	24	8 692	25	11 507
CLOTH	25	3 395	24	5 092	26	6 679	29	9 647	25	9 675	24	10 992	25	13 907	30	22 430	31	31 204
WOVEN FABRIC ARTICLES	8	2 533	7	3 438	10	3 600	14	20 146	16	14 627	18	17 305	22	25 614	26	39 889	31	59 321
CLOTHING	10	3 441	11	5 066	12	7 726	14	13 459	15	16 404	14	17 598	17	25 260	18	36 714	23	58 730
OTHER CLOTH GOODS	17	2 005	16	2 893	23	5 263	27	8 169	26	9 483	30	11 977	37	17 234	39	24 290	40	33 908
OTHER ARTICLES	28	1 017	25	1 373	30	2 021	45	3 306	46	3 995	30	4 359	47	5 438	56	8 119	63	11 230

Source: INE - 1976-1978
I.T. - from 1979

Examination of this table shows that:

a) There was a 7.8% average increase in actual production although average prices per ton varied according to the current situation and the rate of exchange. The average price per ton in 1982 was 120% higher than in 1981, the year exports fell, i.e. when competition increased. The price per ton in 1984 was ten times that in 1976, obviously greater than would be expected from changes in internal and external prices.

b) In 1976 54.5% of the total production was exported to the EEC. 76.8% of exports by volume went to E.F.T.A. and the EEC. In view of the higher average price per ton of exports to E.F.T.A., in value this amounted to 84.7%. In 1984 the proportions exported to the EEC and EFTA were 79.2% by volume and 85.7% by value. In terms of value however the proportion exported to the EEC increased from 52.9% to 64.6% but exports to E.F.T.A. fell from 31.8% to 14.9%.

c) In 1976 and 1984 the proportionate values of the different products exported were:

	1976	1984
Fibres and waste	1.1%	5.7%
Yarn	13.2%	5.6%
Woven fabrics	23.5%	15.1%
Knitted goods	17.5%	28.6%
Woven fabric clothing	23.8%	28.4%

Other woven fabric goods	13.9%	16.4%
Other products	7.0%	5.4%

Knitted fabrics, clothing from cloth and other cloth products accounted for 73.4% of exports, while only 5.6% was yarn, indicating that some enterprises sold products at more than one stage of manufacture and the value of finished products in the Textile and Clothing Sector as a whole had increased considerably.

In recent years exports of textiles and clothing have increased to a lesser extent than those of timber and cork, leather and footwear, metal and metal products for example. Apart from 1981, exports from the sector have maintained their levels better than national exports so that their proportion of the total has increased to almost 1/3. In 1985 exports of clothing increased to almost double those from the whole sector in 1984. Textile, clothing and leather goods were the products with the greatest increases in volume in 1985.

2.2.2 Analysis of the economic situation in Portugal

The foregoing indicates the importance of the Textile and Clothing Sector to employment, production and exports and shows that the Sector must be taken into account when considering the need for extensive internal restructuring, so that the process of adjustment can take place within economically and socially acceptable parameters.

Changes in external factors (exports, export prices, consumer prices), and internal factors (cost of labour and capital) have been favourable. Average annual rates of export increases at constant prices were as follows:

SUB-SECTORS	Wool	Cotton	Knittd fabrics	Clothing
Production 84/77	0.6%	4.9%	7.3%	3.0%
Exports 85/77	8.8%	7.0%	18.9%	15.3%
Imports 85/77	9.2%	10.9%	7.3%	16.1%
Employment 84/77	2.7%	0.5%	0.3%	3.8%
GDP/Employment 84/77	7.2%	6.0%	4.2%	1.5%
VBP/Employment	4.2%	3.3%	6.2%	1.9%

Although the true values for production, exports and employment are all shown as positive, it is doubtful whether this is accurate, consequently:

a) Increases in employment in the cotton industry should not have been projected for GDP or GPV per worker only, since they could have fallen up to the time of actual employment.

b) How are the large increases in clothing exports reconciled with the GDP and GPV per worker? Because of the greater use and flexibility of labour in clothing manufacture. In the case of the knitted fabrics sub-

sector it is more difficult to form conclusions since it is a sub-sector of a diverse nature.

c) The use of average figures conceals the reduction in employment in the wool sub-sector from 1983 and the 28.1% fall in exports at constant prices in 1985 compared to 1984, in spite of the fact that the level of employment recovered slightly from 1984 to 1985.

However since the Textile and Clothing Sector is geared to the export market, the above analysis only indicated a positive change under the principle that using nominal values only accentuates the change through normal changes in external market prices and with values in escudos at a permanent devaluation rate.

With regard to the last point, the economic policy and the balance of payments policy in Portugal have accentuated the close relationship between problems of the Textile and Clothing Sector and the structural problems of the Portuguese economy.

Following the devaluation of accounts with foreign countries in the middle of the Seventies and the first letter of Intent to the F.M.I. in 1978, a form of intervention was initiated, based on prudent devaluation of the escudo, by 15% in February 1977 and on the 4 August 1977, 6.1% in May 1978, 9.4% in June 1982, 2% in March 1983 and 12% in June 1983. At the

same time devaluation on a sliding scale was introduced in August 1977, first at 1% per month increasing to 1.25% per month from January to April 1979 and 1% from January to December 1984, as it is at present. In February 1980 6% revaluation was introduced under exceptional circumstances and the crawling peg went down to 0.5% per month.

The country's competitiveness abroad is thus based on devaluation which compensates for wage increases, productivity increase being deduced from assessment of the labour cost per unit of production. Accordingly, on the basis of 1973 = 100, after having fallen dramatically in 1976, competitiveness increased regularly up to 1985 when it remained almost stationary at 140. Every year, with the exception of 1981, there has been a definite correlation between this index, the Textile and Clothing Sector's exports and the Sector's overall economic situation.

Devaluation in Portugal however has always been associated with deflation of the economy at a consumer price index higher than that of its commercial partners. For example, the average inflation of O.E.C.D. countries is 4.5 points and in Portugal in 1985 it was 21.6% for the G.D.P.. On the other hand, imports contributed towards the increase in inflation (28%), creating interaction between devaluation and inflation which has normally been absorbed by a small increase in actual wages and a smaller proportion of

actual wages in available income, which at the beginning of the Eighties was about 45% and is now (1985) under 40%. There was a slight increase in this figure in 1986. This is in a situation in which wages contribute less than 30% of the total price variations included in the G.D.P.

It might therefore be said that, although the Portuguese economic policy is not oriented towards the Textile and Clothing Sector, in spite of all its problems it has benefitted from restructuring, competitiveness and the containing of labour costs, which by national standards are low. On the contrary, by increasing exports the sector has contributed to the recovery in the balance of payments and has suffered from the effects of the crisis through increased financial charges and the problems of obtaining credit under less difficult conditions.

The Textile and Clothing Sector is certainly not responsible for changes in the structure of the Portuguese economy. It is only responsible for diversifying production in its own field in order to offer products for which there is a demand, or to carry out investment. State aid for enterprises should be considered where it is required in the case of reduction of a workforce or for restructuring viable enterprises with insufficient capital.

The basic problem, which has already been mentioned elsewhere in this report, is to know how far this mode of operation may be used in a medium term with little scope for manoeuvring the exchange rate and a tendency for labour costs to increase.

2.3 Details of the enterprise and employment structure in Mainland Portugal according to the 1985 "Quadros de Pessoal" and other information

This section has been included to indicate a number of variables and their relative importance, according to different criteria, to the economic activities (classified by 6 digit code numbers) in the Textile and Clothing Sector. We will thus have an image of the present social structure of the Sector, its relationship with labour and the characteristics of the latter to enable us to make a better assessment of the consequences of the structural alterations anticipated.

2.3.1 Size of enterprises per activity, number and percentage distribution according to size and activity

The next table shows the distribution of the 3 894 enterprises employing workers in Mainland Portugal in absolute and relative terms according to their size.

Table 2.3.1.1

ACTIVITY CODES	0-4	0-5	5-9	10-19	20-49	50-99	100-199	200-399	400-499	500-999	1 000+	TOTAL
3.21100	1	1	0	0	0	0	0	1	0	1	0	3
3.21110	2	4	5	8	3	1	0	0	0	0	0	19
3.21120	12	18	15	26	39	32	28	16	2	6	2	178
3.21130	26	30	25	35	57	49	49	43	6	33	14	337
3.21141	0	0	1	0	0	0	0	0	0	1	0	2
3.21142	0	0	1	0	0	0	1	0	0	0	0	2
3.21150	13	18	19	14	18	7	4	1	0	0	0	76
3.21160	0	1	1	0	3	1	0	1	0	0	0	6
3.21190	3	5	9	10	5	9	5	2	1	2	0	46
3.21210	3	3	0	2	0	0	1	0	0	0	0	6
3.21220	27	41	27	23	20	10	8	2	0	0	0	117
3.21230	15	17	15	9	4	4	2	1	0	0	0	50
3.21240	2	2	1	1	0	0	0	0	0	0	1	5
3.21290	9	9	2	5	14	3	0	3	0	0	0	36
3.21300	91	118	109	115	143	83	53	33	3	11	0	641
3.21400	1	1	0	1	0	1	0	0	0	0	0	3
3.21410	6	11	10	19	21	4	6	5	0	1	0	72
3.21420	2	2	0	1	1	0	1	0	0	0	0	5
3.21510	0	1	2	1	1	2	0	3	1	1	1	12
3.21520	2	3	2	4	4	4	1	0	0	0	0	17
3.21590	1	1	0	0	0	0	0	0	0	1	0	2
3.21900	0	0	0	1	0	0	0	0	0	0	0	1
3.21910	6	7	4	3	3	0	2	0	0	0	0	18
3.21920	0	0	0	0	0	0	1	0	0	0	0	1
3.21990	16	21	13	10	8	7	5	1	1	0	0	61
3.22010	405	435	92	34	20	0	2	1	0	0	0	554
3.22020	187	232	190	313	463	208	106	47	3	14	1	1 532
3.22030	11	11	4	9	1	2	0	1	0	0	0	28
3.22040	10	12	7	9	4	1	2	1	0	0	0	34
3.22090	10	12	2	7	6	3	1	1	0	0	0	30
TOTAL	861	1 016	556	660	838	421	278	163	17	71	19	3 894

Analysis of the last table shows that:

a) 78.5% of enterprises manufacturing clothing to measure have fewer than five employees, almost all have fewer than nine employees, only three have over 100.

Most enterprises mass producing clothing are well represented in the categories up to the 50 to 99 employees group, the largest number being in the 20 to 49 group; 11.2% have over 100 employees and there are 15 large enterprises (over 500).

b) 641 enterprises (16.5% of the total) manufacture knitted fabrics; they are fairly evenly distributed according to the number of employees, with a decreasing number of enterprises up to the 200-399 employee group. There are 11 large enterprises.

c) The largest enterprises are those spinning, weaving and finishing cotton and synthetic fibres; 43.1% have over 100 employees, 14% over 500 employees and 4.2% over 1 000, i.e. 47 out of the 337 enterprises are large.

d) There are 178 enterprises, of which 8 are large, engaged in spinning, weaving and finishing wool and mixed fibres. They are more evenly distributed according to size, the largest being in the 20-100 employees group.

e) 118 enterprises manufacture textiles for domestic use; they are mostly in the smaller unit categories with

decreasing numbers up to the 200 to 399 employee size; there are 2 enterprises in this category.

f) In the textile sector (wool and cotton) there are only 3 enterprises (one of which is large) using their own yarns in the production of finished goods.

2.3.2. Distribution of establishments per activity as a percentage of size group

The previous section dealt with distribution of enterprises according to size. These enterprises, an examination of which appears to us to be relevant since factors relating to changes in the sector are included, were however classified by their principle activity. It should be noted that an enterprise may have more than one establishment. The table will only contain three observations relating to existing establishments out of the 3 894 enterprises.

a) It is fairly easy to identify establishments with their activity, although it often becomes more difficult the larger the enterprise. (Only 1% of the enterprises have more than one establishment).

b) There is a tendency for more establishments to be found in the smaller size groups.

Table 2.3.2.2

ACTIVITY CODES	0-4	0-5	5-9	10-19	20-49	50-99	100-199	200-399	400-499	500-999	1 000+	TOTAL
3.21100	25.0	25.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	0.0	100.0
3.21110	10.0	20.0	25.0	40.0	15.0	5.0	5.0	0.0	0.0	0.0	0.0	100.0
3.21120	6.3	9.4	7.9	15.7	20.9	17.3	15.2	8.9	2.6	4.2	1.0	100.0
3.21130	7.0	8.1	6.7	9.7	15.9	14.0	14.0	14.2	1.9	11.3	5.4	100.0
3.21141	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	100.0
3.21142	0.0	0.0	33.3	0.0	0.0	0.0	33.3	33.3	0.0	0.0	0.0	100.0
3.21150	16.0	22.2	24.7	17.3	22.2	11.1	7.4	1.2	0.0	0.0	0.0	100.0
3.21160	0.0	16.7	16.7	0.0	50.0	16.7	0.0	16.7	0.0	0.0	0.0	100.0
3.21190	6.0	10.0	18.0	20.0	14.0	18.0	14.0	4.0	0.0	6.0	0.0	100.0
3.21210	42.9	42.9	0.0	28.6	14.3	0.0	14.3	0.0	0.0	0.0	0.0	100.0
3.21220	22.3	33.8	22.3	19.0	18.2	9.9	6.6	1.7	0.0	0.0	0.0	100.0
3.21230	28.3	32.1	28.3	18.9	9.4	7.5	5.7	1.9	0.0	0.0	0.0	100.0
3.21240	28.6	28.6	14.3	42.9	0.0	0.0	0.0	0.0	0.0	0.0	14.3	100.0
3.21290	25.0	25.0	5.6	13.9	38.9	8.3	0.0	8.3	0.0	0.0	0.0	100.0
3.21300	13.6	17.9	16.9	17.3	22.4	13.3	8.4	4.9	0.7	2.5	0.0	100.0
3.21400	33.3	33.3	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	0.0	100.0
3.21410	7.6	13.9	13.9	25.3	27.8	6.3	7.6	8.9	0.0	1.3	1.3	100.0
3.21420	28.6	28.6	0.0	14.3	14.3	0.0	42.9	0.0	0.0	0.0	0.0	100.0
3.21510	0.0	6.7	13.3	6.7	6.7	13.3	0.0	20.0	6.7	6.7	26.7	100.0
3.21520	10.5	15.8	10.5	21.1	21.1	21.1	10.5	0.0	0.0	5.3	0.0	100.0
3.21590	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	100.0
3.21900	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
3.21910	30.0	35.0	25.0	15.0	20.0	0.0	10.0	0.0	0.0	0.0	0.0	100.0
3.21920	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
3.21990	24.2	31.8	21.2	15.2	12.1	15.2	7.6	1.5	3.0	0.0	0.0	100.0
3.22010	69.3	74.6	17.0	7.3	4.8	0.2	0.7	0.2	0.2	0.3	0.0	100.0
3.22020	11.6	14.4	12.0	20.2	29.7	13.9	7.2	3.6	0.2	1.5	0.2	100.0
3.22030	39.3	39.3	14.3	32.1	3.6	7.1	0.0	3.6	0.0	0.0	0.0	100.0
3.22040	25.6	30.8	20.5	23.1	10.5	5.1	7.7	7.7	0.0	0.0	0.0	100.0
3.22090	32.3	38.7	6.5	25.8	19.4	9.7	3.2	3.2	0.0	0.0	0.0	100.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.3.3. Number of persons and their percentage distribution per activity according to qualifications

The number of persons (243 021) in the Textile and Clothing Sector and their percentage distribution are shown in the next table.

Table 2.3.3.2 illustrates that very few persons in the Textile and Clothing Sector - and the footwear industry - in Portugal have the first four qualifications.

Table 2.3.3.1

ACTIVITY CODES	Mg Dir	Snr Mgrs	Mid Mgrs	Fmen Ovsrs Te ldrs	Highly Skild Pers	Skild Pers	Semi-Skild Pers	Non-Skild Pers	Probs & Apps	Not Known	
3.21100	0.0	0.4	0.8	4.0	0.2	32.6	49.0	6.7	4.4	2.0	1 047
3.21110	0.0	0.4	0.6	3.0	0.6	21.4	14.8	17.1	13.2	18.8	463
3.21120	0.0	0.8	1.1	4.3	3.3	17.1	58.9	7.2	4.9	2.3	19 699
3.21130	0.0	0.6	0.9	3.3	0.6	39.0	45.9	9.8	6.0	2.1	75 176
3.21141	0.0	1.4	0.8	3.5	1.0	44.1	32.2	15.2	0.6	1.2	512
3.21142	0.0	0.2	0.2	1.9	0.5	25.6	35.3	16.9	16.9	2.4	414
3.21150	0.0	0.8	0.8	3.5	0.7	47.4	17.8	8.4	12.6	7.9	2 239
3.21160	0.0	0.5	1.7	3.6	0.2	36.1	32.8	10.1	9.6	5.3	415
3.21190	0.0	0.6	1.2	3.6	0.4	40.4	34.5	9.0	7.2	3.1	3 425
3.21210	0.0	0.6	1.2	3.5	0.6	60.1	15.0	2.9	6.4	9.8	173
3.21220	0.0	0.3	0.4	2.2	0.4	49.6	16.5	2.7	23.4	4.5	3 596
3.21230	0.0	0.1	0.5	3.3	0.2	38.2	18.8	5.4	22.7	11.4	1 157
3.21240	0.0	0.4	2.2	1.7	0.6	53.8	27.4	4.8	3.8	5.1	1 146
3.21290	0.0	0.1	0.6	3.0	0.5	46.9	14.8	2.7	28.0	3.4	1 572
3.21300	0.0	0.5	0.7	2.8	0.5	42.1	28.9	4.8	16.2	3.4	37 392
3.21400	0.0	0.0	0.0	0.0	0.0	29.8	5.3	0.0	58.5	6.4	94
3.21410	0.0	1.0	1.7	2.7	0.4	32.0	33.8	9.2	9.8	9.4	4 107
3.21420	0.0	0.5	1.1	0.0	0.0	8.7	6.0	0.0	0.0	83.6	183
3.21510	0.0	0.4	1.4	4.1	0.3	28.0	44.0	8.2	4.2	9.3	4 277
3.21520	0.0	0.6	0.9	2.3	0.2	37.0	35.8	5.4	13.0	4.8	646
3.21590	0.0	0.0	0.9	2.1	0.5	27.8	32.6	0.7	34.0	1.4	565
3.21900	0.0	0.0	0.0	0.0	0.0	17.6	23.5	11.8	23.5	23.5	17
3.21910	0.0	2.5	0.8	7.7	2.5	30.7	20.9	5.0	8.1	21.7	479
3.21920	0.0	0.0	0.0	1.5	0.0	0.0	51.5	0.0	0.0	46.9	130
3.21990	0.0	1.2	1.1	3.2	1.1	38.8	26.2	12.7	7.3	8.4	2 433
3.22010	0.0	0.1	0.4	8.4	0.1	61.3	4.9	1.6	13.5	9.8	3 294
3.22020	0.0	0.1	0.7	2.9	0.2	50.9	15.0	1.8	23.9	4.5	76 129
3.22030	0.0	0.2	1.0	2.2	0.5	18.6	44.6	13.2	7.1	12.5	408
3.22040	0.0	0.9	0.1	3.9	0.7	21.4	40.0	1.2	23.1	8.6	813
3.22090	0.0	0.2	0.8	2.4	0.2	44.6	19.7	2.5	23.8	5.8	1 020
TOTAL	0.0	0.4	0.8	3.2	0.6	39.1	32.0	5.9	14.0	3.9	
TOTAL PERS.	0	1 058	2 025	7 892	1 570	94 947	77 794	14 259	14 065	9 411	243 021

Table 2.3.3.2

Employment structure per activity sector and qualification - 1985

	TOTAL	Senior Managers	Middle Managers	Foremen, Overseers Team ldrs	Highly skilled specs.	Skilled specs.	Semi-skilled specs.	Non-skilled	Probationers and apprentices	Unknown
TOTAL	100.0	2.1	1.7	4.1	3.7	39.4	19.7	10.8	9.9	8.6
Agric. Forest, Shoot & Fish.	100.0	0.9	0.4	5.2	1.0	25.7	14.9	40.4	1.4	10.1
Extraction Industries	100.0	0.9	1.5	4.7	1.7	39.2	33.7	7.5	5.3	5.5
Processing Industries	100.0	1.3	1.0	4.0	3.5	37.8	25.1	7.8	12.1	7.4
Food, Drink and Tobacco	100.0	1.5	1.1	4.7	1.6	29.0	38.9	8.0	6.8	8.4
Textiles, Clothing & Footwr.	100.0	0.4	0.7	3.0	0.7	38.4	32.7	5.5	16.3	2.3
Wood and Cork	100.0	0.6	0.6	2.5	1.6	38.5	15.0	20.5	17.7	3.0
Paper, Graphics & Publics.	100.0	1.9	1.1	3.7	20.2	25.9	19.0	7.0	14.1	7.1
Chemicals and Oil	100.0	3.8	2.9	5.8	7.2	26.9	7.8	2.6	3.1	39.9
Non-Metal Mineral Prod.	100.0	1.2	0.7	4.8	1.6	35.7	24.8	16.6	9.8	4.8
Basic Metal Production	100.0	2.6	1.1	4.5	5.2	48.8	21.5	7.4	5.9	3.0
Metal Prods. Manufacture	100.0	1.8	0.8	4.9	4.8	47.1	19.0	5.6	10.0	6.0
Other Processing Industries	100.0	0.5	0.5	3.3	5.2	27.4	27.4	4.8	15.2	15.7
Elec. Gas & Water	100.0	12.0	1.5	0.7	5.9	29.4	39.0	9.0	0.1	2.4
Building & Public Works	100.0	1.8	0.5	6.1	1.1	46.2	3.7	26.7	12.6	1.3
Commerce, Restaurts. & Hotels	100.0	2.6	1.5	4.1	4.2	44.3	17.2	10.1	11.1	4.9
Transport & Communications	100.0	3.9	2.7	4.4	4.3	44.5	22.2	7.4	1.4	9.2
Banks, Ins. & Property Deal.	100.0	4.7	5.2	5.2	4.7	51.6	8.1	7.8	1.6	11.1
Services	100.0	1.4	4.2	1.3	5.1	23.0	11.2	13.5	9.9	30.4

Source: MTSS Quadros de Pessoal, 1985

Examination of the tables shows that:

a) The mass production clothing sub-sector, with 76 129 employees (31.3% of the total), and the spinning, weaving and finishing of cotton and synthetic fibres sub-sector, with 75 176 employees (30.9% of the total), are the largest employers of labour, although the number of enterprises in the latter is only 22% of that in the former. The 37 392 persons (15.4% of the total) employed in the knitted fabrics sub-sector and the 19 699 (8.1%) employed on spinning, weaving and finishing of wool and mixed fibres together with the employees in the two sub-sectors above represent 86% of all employees in the Textile and Clothing Sector

b) In the case of qualifications, senior managers comprise 0.2% of the total workforce. If we add the 12 545 middle managers, foremen, overseers, team leaders and highly skilled employees, the proportion becomes 5% of the total. It should be noted that the number of highly skilled employees is only slightly higher than that of senior managers. There are 94 947 skilled employees and 77 794 semi-skilled employees, or 71% of the total.

c) Owing to the nature of the activity the number of employees in each category may vary; e.g. 8.4% foremen, overseers and team leaders in the manufacture of made-to-measure clothing, 7.7% of the same categories and 2.5% senior managers in the manufacture of waterproof oiled fabrics

The following table shows the percentages of all qualified employees, including the highly skilled, skilled and semi-skilled in the most important sectors indicated in a):

ACTIVITY	Snr Mgrs, Middle Mgrs, Foremen, Overseers, Team Ldrs, Highly skilled Employees	+ Skilled Employees	+ Semi-Skilled Employees
Spinning, weaving & finishing of wool & mixed fibres	5.5	26.6	85.5
Spinning, weaving & finishing cotton & synthetic fibres	5.4	36.3	82.2
Manufacture of knitted fabrics	4.5	46.6	75.5
Mass production of clothing	3.9	54.8	69.8

Surprisingly these activities are in decreasing order of concern; the table shows that the proportions of senior and middle managers, foremen, overseers and team leaders and highly skilled employees are decreasing, that of skilled employees increasing, of semi-skilled decreasing and of probationers and apprentices increasing, which reverses the order of the figures in the totals.

d) The numbers of probationers and apprentices varies; in the mass produced clothing sub-sector they account for almost a quarter of the number of staff, in the knitted fabrics sub-sector 16.2%, in the spinning, weaving and finishing of wool and mixed fibres and cotton and synthetic fibres sub-sectors only 4.6% and 6.5% respectively.

2.3.4 Number of employees and other workers per activity and qualification

This section has been included to show that:

a) for statistical purposes it does not relate to managers

b) 80 senior managers are not in this category

c) 137 middle managers are not in this category

d) 2 or 3 foremen, overseers and team leaders are not in this category

e) 3 highly skilled workers are not in this category

f) there are 3 877 more personnel other than employees and other workers, although there were also some who did not know.

It should be noted that the definition of qualifications,

which we will examine in greater detail, is as laid down in Decree-Law No. 121/78 of 2 June.

2.3.5. Number of persons engaged in the textile industry according to their position

"Estatísticas sobre a indústria têxtil" (Statistics relating to the textile industry) published in 1985 by the Instituto dos Têxteis included details of the persons actually employed in the industry per job (in spite of the information reported in 1982), in addition to information on the textile and clothing industry. The next table shows the numbers and percentages of persons in each job category.

Table 2.3.5.1

POSITION	1976		1977		1978		1979		1980		1981		1982	
	No	% Total	No	% Total	No	% Total	No	% Total	No	% Total	No	% Total	No	%Total
Unpaid staff	806	0,5	810	0,5	812	0,4	773	0,4	750	0,4	841	0,4	681	0,3
Working owners	621	0,4	627	0,3	629	0,3	620	0,3	610	0,3	684	0,3	543	0,3
Family labour	185	0,1	183	0,1	183	0,1	153	0,1	140	0,0	157	0,1	138	0,1
Paid staff	168 798	99,5	179 067	99,6	183 800	99,6	197 102	99,6	203 714	99,6	210 915	99,6	213 833	99,7
Office admin & other nonl prod. staff	13 095	7,7	14 779	8,2	14 656	7,9	14 740	7,4	15 088	7,4	16 051	7,6	16 593	7,7
Managers	2 871	1,7	3 061	1,7	3 222	1,7	3 373	1,7	3 581	1,8	3 955	1,9	4 188	2,0
Non-managrial Operators	10 222	6,0	11 709	6,5	11 434	6,2	11 367	5,7	11 507	5,6	12 096	5,7	21 505	5,8
	155 705	91,8	164 297	91,3	169 144	91,6	182 362	92,2	188 626	92,3	194 864	92,0	197 229	91,9
TOTAL	169 604	100,0	179 867	100,0	184 612	100,0	197 865	100,0	204 464	100,0	211 756	100,0	214 503	100,0

Source: I.T.

Analysis of the table shows that:

a) It should be considered as complementing Table 2.3.3.1 and also supplying details relating to directors not included in the Quadros de Pessoal;

b) Although the number of workers increased by more than a quarter between 1977 and 1982, the proportions of different qualifications in an activity have remained almost the same, with very few managers, but operators and non-managerial administrators constituting about 98% of the total staff. Paid directors are the only category which has increased slightly;

c) Using the 1982 figures and the annual average increase between 1976 and 1982, the employment figure for 1985 comes to approximately the same as in that in the Quadros de Pessoal. There are no reasons for any considerable changes in the structure.

2.3.6. Percentage distribution of employees and other workers per activity and education

The table on the next page gives a breakdown of State education attendance of employees and other workers in the different sub-sectors in 1985.

Table 2,3,6,1

ACTIVITY CODES	Illit	Literate	Basic Prim.	Basic Preprep	General Second.	Supplement Secondary	Tech & Comm.	Advanced Tech.	Intermediate	"Bacc".	"Licnt"
3,21100	8,5	5,7	73,9	7,7	1,4	1,0	0,8	0,4	0,0	0,1	0,3
3,21110	3,2	4,8	74,9	8,4	4,1	2,5	0,9	0,9	0,0	0,0	0,0
3,21120	5,8	11,3	66,5	9,2	2,2	1,1	0,9	1,0	0,2	0,1	0,5
3,21130	4,2	12,3	65,9	10,6	1,9	0,9	1,0	0,9	0,1	0,2	0,6
3,21141	0,0	5,1	8,3	5,1	1,8	2,4	0,0	0,0	0,0	1,2	0,8
3,21142	2,0	5,2	66,1	21,6	3,0	0,5	0,5	0,0	0,0	0,0	0,2
3,21150	1,5	5,5	70,9	12,1	2,4	1,5	2,3	0,9	0,0	0,1	0,4
3,21160	0,2	1,5	22,1	6,2	1,7	0,7	1,2	0,0	0,0	0,0	0,0
3,21190	2,5	11,1	70,4	9,3	1,8	1,4	1,4	0,4	0,0	0,3	0,4
3,21210	0,6	0,6	67,5	24,7	2,4	0,0	2,4	1,8	0,0	0,0	0,0
3,21220	1,6	5,2	70,7	16,3	2,6	1,0	0,9	0,2	0,1	0,0	0,2
3,21230	0,5	3,8	61,8	20,1	3,1	1,5	1,0	0,5	0,0	4,5	0,6
3,21240	4,9	10,9	63,2	12,9	2,8	1,3	0,7	0,3	0,0	0,3	0,2.
3,21290	0,6	1,4	69,9	20,7	2,7	1,2	1,0	0,3	0,0	0,1	0,2
3,21300	0,7	3,6	70,7	17,1	3,4	1,6	1,0	0,4	0,1	0,1	0,3
3,21400	0,0	0,0	81,5	10,9	1,1	5,4	0,0	0,0	0,0	0,0	0,0
3,21410	1,9	10,1	61,3	11,2	2,6	1,0	1,6	0,8	0,1	0,3	0,9
3,21420	1,2	9,8	71,7	8,1	2,9	1,7	0,0	0,0	0,0	0,6	0,0
3,21510	4,4	15,8	59,0	12,6	1,7	1,1	1,6	1,0	0,1	0,3	0,4
3,21520	3,2	15,7	53,3	17,8	1,9	1,4	2,4	0,6	0,0	0,3	1,1
3,21590	1,2	18,6	50,6	25,8	0,5	1,1	0,5	0,7	0,5	0,0	0,2
3,21900	0,0	6,7	46,7	46,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0
3,21910	2,2	8,4	65,4	9,1	4,1	1,1	4,5	1,1	0,0	1,1	1,1
3,21920	10,9	20,2	65,1	0,8	0,0	0,8	0,8	0,0	0,0	0,0	1,6
3,21990	3,3	9,3	67,8	10,4	2,6	1,7	1,7	0,9	0,3	0,5	0,5
3,22010	0,8	4,0	79,8	8,1	1,4	0,8	1,1	0,1	0,0	0,1	0,1
3,22020	0,7	2,9	69,8	18,5	3,2	1,4	1,0	0,2	0,1	0,1	0,2
3,22030	1,6	8,3	75,8	9,9	1,3	0,8	0,8	0,5	0,3	0,0	0,3
3,22040	1,0	1,7	59,3	24,4	5,4	1,8	1,0	0,5	0,1	0,1	0,8
3,22090	0,6	2,2	73,8	16,0	3,5	1,6	1,3	0,2	0,0	0,1	0,4
TOTAL	2,5	7,4	68,0	14,2	2,6	1,2	1,0	0,6	0,1	0,2	0,4

The following conclusions may be drawn from the last table:

a) In some sectors there is even a considerable proportion of persons who cannot read or write; e.g. 31.1% in the skin cutting and preparation industry, 14% in activity 3.211.00 - preparation, spinning, weaving and finishing of fibres.

In the larger wool and cotton activities (3.211.20 and 3.211.30) the proportions are 17.1% and 16.5%, which is high in comparison with the knitted fabrics (3.6%) and clothing mass production (4.8%) sub-sectors.

b) The majority of employees and other workers received basic primary education (four years schooling); the proportions for the four largest activities referred to above were:

Spinning, weaving and finishing wool and mixed fibres	- 83.6%
Manufacture, weaving and finishing cotton and synthetic fibres	- 82.4%
Knitted fabrics	- 75.0%
Clothing mass production	- 73.4%

c) If we include basic preparatory education (an extra 2 years of school attendance), almost all employees and other workers are included, at least for the majority of activities

Figures for the activities shown in b) are 92.8%, 93.0%, 92.1% and 91.9% respectively.

d) Differences are not significant in the case of education from 9 to 12 years (secondary education)

Considerably fewer workers in the knitted fabrics and clothing mass production sub-sectors received technical education.

e) Very few workers in any sector received intermediate education, or were educated to "baccalaureate" and "licentiate standards", but the knitted fabrics and clothing mass production sectors contained less than half the number found in the above activities.

f) Overall the proportion of employees and other workers who had received basic education was 77.9%; 14.2% received basic preparatory education, 5.6% secondary education, of whom only 0.6% had received technical education and only 0.7% intermediate and higher education.

g) Some of the totals do not come to 100% since activities with insignificant numbers have not been included, e.g. agriculture, other types of secondary education and those who did not know.

2 3.7. Percentage distribution and number of employees and other workers per activity and length of service

The next table shows the percentage distribution per activity and length of service of employees and other workers, with sub-totals in each case.

Table 2.3.7

ACTIVITY CODES	- 1 yr	1-4 yrs	5-9 yrs	10-14 yrs	15-19 yrs	20+ yrs	Not Known	
3.21100	3.1	14.8	11.6	43.1	18.5	2.6	1.2	891
3.21110	10.4	48.0	16.2	15.9	3.7	4.4	1.3	383
3.21120	6.7	27.0	10.3	29.0	14.4	11.1	1.6	17 150
3.21130	4.7	24.4	9.2	34.1	15.2	11.0	1.4	62 479
3.21141	4.3	2.0	5.4	16.1	30.5	39.4	2.3	442
3.21142	5.0	51.7	13.1	26.4	1.7	0.0	2.2	360
3.21150	5.6	33.4	15.1	20.3	12.0	10.9	2.8	1 760
3.21160	7.2	22.5	24.8	27.1	12.7	3.6	2.0	306
3.21190	4.4	29.4	10.3	26.3	14.7	12.3	2.6	2 851
3.21210	3.0	24.4	29.6	20.0	9.6	10.4	3.0	135
3.21220	14.7	45.6	16.1	13.3	5.8	2.7	1.8	2 920
3.21230	7.1	54.4	16.7	9.1	5.7	5.6	1.4	959
3.21240	8.2	19.2	3.1	53.1	13.7	2.2	0.5	1 017
3.21290	8.9	61.9	19.2	6.1	0.9	1.5	1.4	1 312
3.21300	9.5	41.7	12.7	20.3	8.9	5.3	1.5	31 236
3.21400	16.9	73.8	0.0	4.8	0.0	0.0	4.8	84
3.21410	5.7	22.5	12.2	35.2	16.1	7.0	1.5	3 335
3.21420	0.0	23.1	20.5	30.8	0.0	0.0	25.6	39
3.21510	9.8	26.0	7.6	30.9	15.7	8.9	1.0	3 604
3.21520	14.4	39.7	10.6	13.4	4.3	16.4	1.1	536
3.21590	1.0	48.2	2.8	22.9	13.2	11.3	0.6	506
3.21900	13.3	66.7	20.0	0.0	0.0	0.0	0.0	15
3.21910	7.5	26.0	12.7	44.7	7.3	1.6	0.3	369
3.21920	15.7	31.5	4.6	17.6	1.9	26.9	1.9	108
3.21990	6.5	35.2	13.9	24.7	9.3	9.4	1.2	2 051
3.22010	10.8	40.3	12.5	20.7	7.8	4.9	2.9	2 213
3.22020	13.2	53.9	12.7	14.6	3.2	0.8	1.6	63 622
3.22030	3.1	24.8	8.0	16.5	16.8	25.1	5.7	35
3.22040	8.4	48.5	11.4	19.2	5.9	3.2	3.4	656
3.22090	15.6	61.2	12.0	8.3	1.7	0.6	0.6	832
TOTAL	8.8	38.0	11.4	24.0	9.8	6.5	1.5	
Total employees & other workers	17 787	76 992	22 990	48 702	19 841	13 117	3 103	202 532

Analysis of the table shows that:

a) 46.8% of employees and other workers had been working in the Textile and Clothing Sector for less than four years, 58.2% between 4 and 9 years and 82.2% from 9 to 14 years. 16.3% have worked in the Sector for over 15 years.

b) 25.5% and 26.2% of employees and other workers have worked for over 15 years in the spinning, weaving finishing of wool and mixed fibres and cotton and synthetic fibres sub-sectors respectively. The corresponding figure for the knitted fabrics sub-sector is 14.2% and for clothing mass production 4.4%. 51.2% and 67.1% of employees and other workers have worked in these last two sub-sectors for less than four years; corresponding figures for the first two sub-sectors referred to are 33.7% and 29.1%.

2.3.8 Average monthly remuneration (profit) of employees and other workers per activity and qualification (in escudos)

In spite of the difficulties encountered in collecting information of this nature and the natural tendency to underestimate remuneration received (which increases with higher paid employees), the following table shows the average monthly remuneration and the percentage decrease in remuneration compared to the next skill.

Table 2.3.8.1

ACTIVITY CODES	Snr Mgr	Middle Mgr	Fmaan Ovsrs Tm ldrs	Highly Skilled Pers	Skilled Pers	Semi-Skilled Pers	Non-Skilled Pers	Probs, & Apps	Not Known	TOTAL
3,21100	49 250	40 157	34 585	35 000	25 421	22 849	20 095	18 706	20 850	24 220
3,21110	44 500	46 860	36 476	35 900	37 742	22 293	20 307	16 842	21 340	23 235
3,21120	57 536	46 584	34 863	29 358	25 642	21 728	20 964	18 405	29 700	23 713
3,21130	71 097	53 725	40 569	40 859	27 482	23 474	22 714	17 646	38 530	25 877
3,21141	65 615	53 778	44 944	46 375	30 698	28 004	28 424	16 800	40 483	30 851
3,21142	60 000	80 000	46 525	42 500	28 005	23 821	20 698	15 292	0	23 724
3,21150	49 040	41 455	38 510	32 232	23 150	21 251	20 929	16 736	20 821	22 553
3,21160	72 000	51 200	39 258	0	25 015	22 023	21 773	19 694	38 404	24 863
3,21190	66 038	48 495	36 614	41 633	24 872	22 939	21 567	16 328	29 879	24 312
3,21210	60 000	31 500	26 950	38 500	21 689	20 253	23 200	17 251	21 635	21 970
3,21220	41 783	48 031	37 224	40 721	22 017	21 125	21 146	15 698	27 656	20 831
3,21230	52 000	46 440	31 255	42 000	22 482	21 916	20 482	17 514	25 396	21 786
3,21240	52 120	45 698	30 721	39 447	27 137	21 898	21 876	19 675	25 764	25 781
3,21290	53 675	53 357	32 103	40 444	20 917	20 753	20 328	13 898	25 312	19 564
3,21300	59 233	45 127	34 908	38 043	22 865	21 637	21 295	15 859	34 373	22 169
3,21400	0	0	0	0	17 848	19 976	0	13 707	19 791	16 579
3,21410	55 960	40 293	37 352	37 240	24 156	23 189	21 581	17 151	24 685	24 046
3,21420	0	0	0	0	19 688	21 083	0	0	20 465	20 364
3,21510	69 179	51 963	33 814	37 725	26 722	21 989	22 337	18 626	23 467	24 542
3,21520	54 500	31 709	27 955	27 000	22 800	20 088	17 981	15 647	34 062	21 186
3,21590	0	45 244	33 881	37 831	25 343	21 301	20 400	14 882	53 848	21 216
3,21900	0	0	0	0	20 000	21 375	14 800	12 125	20 000	17 573
3,21910	70 998	63 667	44 590	38 646	27 184	26 070	22 809	17 557	31 177	29 586
3,21920	0	0	41 750	0	0	23 316	0	0	27 585	25 674
3,21990	74 178	48 682	41 028	43 440	26 777	23 349	22 251	16 714	31 205	26 253
3,22010	70 000	44 329	23 347	33 363	19 688	20 840	20 511	14 489	25 671	19 421
3,22020	58 370	56 377	32 941	40 426	21 824	21 937	21 524	14 882	31 106	20 960
3,22030	32 500	28 750	32 196	26 650	24 793	21 872	17 524	18 038	23 246	21 941
3,22040	57 000	0	35 173	45 667	24 572	23 298	23 800	15 367	22 875	22 424
3,22090	61 000	49 983	33 015	46 550	21 407	20 510	21 628	15 321	29 852	20 525
TOTAL	64 547	51 177 (-20,7%)	36 179 (-29,3%)	35 513 (-1,8%)	23 813 (-32,9%)	22 585 (-5,2%)	22 066 (-2,3%)	15 654 (-29,1%)	31 565	23 199

The following conclusions may be drawn from this table, again with special reference to the four sub-sectors:

Pay for senior management and highly skilled personnel and skilled employees is relatively better in the spinning, weaving and finishing of cotton and synthetic fibres sub-sector. Middle management and highly skilled employees are paid particularly well in enterprises mass producing clothing. Pay in the other sub-sectors is poorer. For employees in enterprises engaged in the knitted fabrics and spinning, weaving and finishing of wool and mixed fibres sub-sectors it is average, with less difference per skill, pay being particularly low for highly skilled employees in the latter sub-sector.

2.3.9 Home workers in the textile and clothing sector

Information on this subject was obtained as a result of two initiatives by the Minister of Employment and Social Security (M.T.S.S.):

- the first in April 1983 when the M.T.S.S. Statistical Service at that time carried out a survey of the 9 000 establishments in Mainland Portugal and the Autonomous Regions relating to 1982. Replies were received from 8 100, 239 of which were using or considering using this type of labour;

- the second, the result of a more detailed survey, originated following an Official Communication from the

Secretary of State for Employment on 21.4.83 in the form of a report on work at home.

2.3.9.1 Survey of the M.T.S.S. Statistical Service (Mainland Portugal)

During 1982 establishments in the textile and clothing sector using home workers employed them on a regular basis for a year. There were on average 28 establishments in the textile sector and 17 in the clothing sector. 40% to 49% of establishments in the sector in Mainland Portugal employed this type of labour. With the exception of the metallurgical and metalworking industries, numbers using home workers in other sectors were negligible.

The types of work most in demand in the textile sector were correction of defects in materials (70.0%), sewing, embroidering, knitting and the making and finishing of clothes (Mainland Portugal and the Autonomous Regions). 15 establishments in the clothing sector employed home workers only for making and finishing clothes. Almost all work was sent to these workers.

The following table shows the size of establishments using this type of labour.

SIZE	11-20	21-50	51-100	100 +	TOTAL
Textiles	3	11	8	15	37
Clothing	6	10	5	3	24

The table shows that in the textile sector it was the large enterprises which employed home workers while in the clothing sector they were mainly employed by smaller enterprises.

2.3.9.2 Report of the Direcção Geral do Emprego (Employment Board)

This report started with a questionnaire sent to public organizations associated with working at home and to employers and trade union associations.

From our point of view the areas with most home workers are, according to activity, the following:

Viana do Castelo	- Embroidery
Oporto	- Clothing
Guarda, Castelo Branco and Covilhã	- Woollen goods

	Lisbon	- Clothing & knitted fabrics
	Viseu, Evora, Beja	- Soft furnishings

There are many of these skills but they are principally associated with the textile sector. A significant amount of work is therefore carried out at home in the activity and/or economy of the region in the following sectors and districts:

Textile sector	Clothing Knitted fabrics Ready made clothing	Braga	- Making finished products
		Oporto	- Knitted fabric clothing, "Poveiro" vests
		Lisbon	- Making clothes, knitted fabrics, making household linen
		Santarém	- Knitted fabrics
		Setúbal	- Making finished products
		Beja	- Knitted baby clothes
		Faro	- Coarse wool knitted goods, machine knitting

Headgear (cloth caps)	- Aveiro
Embroidery	- V. do Castelo, Oporto
Bone lace	- Oporto
Woollen goods	- Guarda, C. Branco (Covilhã), Leiria, Portalegre
Soft furnishings	- Oporto, Viseu, Evora, Beja
Weaving bedspreads	- Oporto
Rugs and carpeting	- Oporto, Faro

From this information, assuming a total of 30 000 home workers, which is considered to be a conservative figure, we estimate that there are about 20 000 home workers in the Textile and Clothing Sector.

2.3.10 Time contracts in the textile and clothing sector

This information resulted from a study carried out by a worker from the Institute of Employment and Vocational Training (I.E.F.P.) in which 88 typical enterprises in the Construction and Textile and Clothing sectors were surveyed. The conclusions which most interest us are as follows:

a) The proportion of time contracts in the textile sector was 11.3%, with 15.8% in the clothing sector. The following table shows the percentages according to size of enterprise .

SIZE	20-49	50-99	100-499	500-999	1000 +
Textiles	5.8	16.4	8.1	9.5	12.5
Clothing	24.9	43.8	17.0	0.3	0.0

Figures for the clothing sector from other sources are probably even higher.

b) The percentages of time contract workers per level of skill are as follows:

		Textiles	Clothing
Senior managers	-	4.7%	0.0
Middle managers	-	8.3	5.3
Foremen, overseers and team leaders	-	1.2	3.4
Highly skilled workers	-	9.3	36.4

Skilled workers	-	5.0	8.1
Semi-skilled workers	-	8.5	5.5
Non-skilled workers	-	23.0	28.6
Probationers & Apprentices		79.2	58.6

There is a clear relationship between the skill and percentage of contract workers in the case of foremen, overseers and team leaders. However, because of the temporary nature of their jobs, the highly skilled worker category includes a higher percentage of longer term contract workers than might be expected.

c) Almost all vocational training is carried out on the job. In the Textile and Clothing Sector there are three periodic refresher courses and one retraining course.

d) In 1980 and 1981 about 50% of the contract workers in the textile sector and 20% in the clothing sector became permanent members of staff. In 1985 5% of textile workers were taken on as permanent staff but there was no change in the clothing sector, i.e. this trend almost ceased and time contracts were used for almost all workers on whom these conditions could be imposed.

61.7% of new employees in the textile sector and 85.4% in the clothing sector were on time contracts compared with the national average of 62.5%.

e) The reasons given for this type of contract are that orders can be fulfilled rapidly and in some cases specific orders can be executed.

According to the July 1986 quarterly employment survey of the M.T.S.S. Department of Statistics, in June 1986 14.2% of workers in the textile sector and 25.6% in the clothing sector were on contract, compared with the national average of 13.9% which, according to information from the National Statistics Institute (Employment Survey), is in fact about 20%. In the textile and the clothing sectors at the same date 2.8% and 3.5% of employees were taken on while 3.3% and 2.9% left respectively. The national average was 3.9% and 3.7%

2.3.11 Number of persons in the sector per activity and value of sales (in million escudos)

The following table shows the number of persons working for enterprises according to sales values in the four activities referred to up to now as most significant:

Table 2.3.11.1.

Volume of sales (million escudos)	Spin, weave & finish wool & mixed fibre products		Spin, weave & finish cotton & synthet fibre products		Knittd fabric manufacture		Mass production of clothing		TOTAL	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total
Under 10	252	1,2	917	1,2	1 425	3,8	7 778	10,5	14 282	5,9
10 - 19	383	1,9	1 138	1,5	1 283	3,4	6 379	8,5	11 021	4,5
20 - 24	325	1,7	221	0,3	369	0,1	3 368	4,5	4 983	2,1
25 - 29	198	1,0	135	0,2	594	1,6	3 263	4,3	4 631	1,9
30 - 34	241	1,2	287	0,4	516	1,4	1 650	2,2	3 329	1,4
35 - 49	583	3,0	876	1,2	2 048	5,4	4 065	5,4	9 026	3,7
50 - 99	1 895	9,6	1 819	2,4	4 199	11,2	9 110	12,1	19 558	8,1
100 - 149	1 512	7,7	1 504	2,0	1 916	5,1	6 719	8,9	14 152	5,8
150 - 199	1 713	8,7	2 663	3,5	2 724	10,0	4 079	5,4	13 099	5,4
200 - 224	361	1,8	638	0,8	1 476	4,0	757	0,1	3 900	1,6
225 - 449	3 299	16,8	8 476	11,2	10 449	27,8	7 544	10,0	35 223	14,5
500 - 999	3 519	17,9	14 312	19,0	6 615	17,6	8 347	11,1	37 434	15,4
1000 +	5 133	26,1	35 251	46,7	2 949	7,8	7 930	10,5	58 215	24,0
Not known	301	1,5	7 197	9,5	1 066	2,8	4 170	5,5	13 724	5,7
TOTAL	19 683	100,0	75 434	100,0	37 629	100,0	75 259	100,0	242 577	100,0

These figures show the large number of workers concentrated in the wool and cotton activities in enterprises with better equipment and good sales records, almost 50% of the workers in the latter sub-sector being in enterprises with sales of a hundred million escudos and over compared with 26.1% in the former sub-sector. The greater distribution in the knitted fabrics sub-sector, especially in the clothing mass production industry, indicates smaller potentially more

viable enterprises with poorer sales but more intensive labour usage.

At national level 54% of the employees work in enterprises with sales in excess of 225 million escudos.

3. Training facitities in the Textile and Clothing Sector

In addition to studying the appropriate bibliography, various persons and organizations involved in training in this sector or connected with it in any way were contacted. We concluded that, apart from training carried out in enterprises (basically for probationers and apprentices), the following institutions provided training for the sector:

- Higher education	- University of Minho - University of Beira Interior
- Secondary education	- Infante D. Henrique (Oporto) Secondary School - Francisco d'Holanda (Guimarães) Secondary School - Campo de Melo (Covilhã) Secondary School - António Arroio (Lisbon) Secondary School - Didáxis Cooperative
- Authorized Centres (IEFP/Social Partners)	- Clothing Industry Vocational Training Centre (Lisbon) - Textile Industry Vocational Training Centre (Oporto)
- Private Education Institutions	- Instituto de Arte e Decoração - International Fashion Technique Centre

Details of the curricula and course frequency will be given for each case, and the effect of training activities at the Textile Industry Technological Centre in cooperation with the European Social Fund will be discussed.

3.1 Higher Education

Higher education is available at 12 universities which provide 4 to 6 year "licentiate" (degree) courses. Entrance from vocational education establishments is by examination after a 3 year apprenticeship period. Two of the universities hold courses on textiles.

3.1.1 University of Minho

The University of Minho in the Bacia do Ave holds "mestrado" (degree) courses on Production Engineering and Textile Engineering, and aids the textile and clothing industry through the Textile Technological Centre under an agreement with Partex-CPS.

Textile Engineering Course - 10 terms with general subjects such as mathematics, computer science, management principles, languages, and specialist subjects such as physics, chemistry, materials, finishing and printing, spinning, weaving, fabric weaving etc. We have details of the curricula of these and other courses.

The Textile Engineering Course - also 10 terms with general and specialist subjects specializing in textile machinery, plastics and plastics technology.

The courses have places for 60 students a year, 35 of whom normally complete the course. Candidates must have passed

the "Númerus Clausus" examination.

The objectives of the textile technology "mestrado" course created by Order No. 1153/82 of 15 December are:

- initiation into the investigation and development of textile processes

- training of higher education teachers

- training of senior specialists of textile enterprises and institutions to a high scientific and technological level.

The course, which lasts for 28 weeks and culminates in a treatise, covers aspects of textile science, technology, management and quality control. There are places for 10 to 15 students.

The Textile Technology Centre provides services to assist the Textile and Clothing Industry with:

- Research and development projects on products and processes on request, financed by enterprises and/or official organizations such as NATO, the Junta Nacional de Investigação Cientifica (National Scientific Investigation Board), etc.

- Complete or sectorial reorganization projects in enterprises, with financial aid from enterprises or

official organizations (Ministry of Industry and others)

- Studies for the design and implementation of effective quality control systems in enterprises, including laboratories, equipment and training of personnel.

- Studies for resolving specific technical problems.

- Investigation, diagnoses and advice on causes of defects in textiles.

- Studies for the acquisition of suitable equipment and machinery.

- Specialised short duration courses for training and retraining enterprise managerial staff.

- University courses for enterprise specialists.

- Quality control service.

- Organization of conferences and talks of a socio-economic and technical/scientific nature.

As a result of an agreement the Technology Centre in conjunction with Partex (Companhia Portuguesa de Serviços, S.a.r.l.) is able to provide more services (including new

services), principally studies, consultancy, analysis results and final reports.

3.1.2 Beira Interior University

Following the example of the University of Minho, the textile, science and technology department of this University in the woollen goods area offers practical and theoretical courses and activities (1 to 5 days) at which technicians from industry are accepted.

In 1986 courses held with cooperation from commercial and official organizations and covering a wide range of practical and theoretical subjects for technicians from industry, include colorimetry and clothing manufacture. The object of the 20 to 40 hour courses, at which there is a limited number of places which are always taken, is to teach the latest techniques which, owing to the lack of specialists, industry has been unable to adopt. The number of courses was restricted due to lack of funds.

In 1985 it was proposed to hold courses for training specialists in five areas - dyeing, spinning, weaving, quality control and clothing manufacture; courses were to be offered in 1986 with aid from the F.S.E. Since only 55% of the aid required was forthcoming, it was only possible to offer courses in dyeing, spinning and quality control. These 120 hour courses, designed for technical staff from small and medium size enterprises with more than 25 years service, covered the technical and practical aspects of the

science and technology of these subjects. 62 students attended.

The following table shows the number and categories of students who attended the Textile Engineering course from 1979 to 1987; teaching was by 10 members of the department's staff.

STUDENTS/YEARS	79/80	80/81	81/82	82/83	83/84	84/85	85/86	85/87
Enrolments	6	28	30	10	39	32	35	37
No. of students	44	73	80	70	91	102	129	121
% of students in the first 2 years	-	-	-	-	47.3	65.7	72.1	70.91
% of students in the last 3 years	-	-	-	-	52.7	34.3	27.9	23.11
No. of students completing the course	-	8	11	3	11	3	-	-

In view of the number of applicants it was suggested that students studying other types of engineering should attend a specialised textile engineering course to commence in 1987/88.

From the table it will be seen that only a small number of students completed the course. This was the result of the ease of finding employment in enterprises during the obligatory apprenticeship period; students therefore did not

submit the final treatise necessary to complete their "licentiate" course.

A. The University of Beira Interior also has;

- Laboratories for:

  • Physical quality control tests
  • Chemical quality control tests
  • Dyeing and finishing
  • Colorimetry

- Workshops for:

  • Carding and spinning
  • Preparation for weaving
  • Weaving
  • Knitted fabrics

It is planned to set up the following centres, laboratories and workshops to cover the three aspects, teaching, investigation and promotion:

- Textile design centre
- Microscope and diffraction laboratory
- Textile rheology laboratory
- Clothing manufacture workshops

Following visits from well-known international specialists the University of Beira Interior is paying particular

attention to training and is providing updating courses for its teaching staff by offering scholarships at universities abroad.

3.2 Secondary Education

In 1983/84 there were three channels of entry to higher education or employment from supplementary secondary education (from the 10th to the 12th year of school attendance following unified secondary education from the 7th to 9th year of schooling) .

- Teaching - over a five year period, the traditional way of continuing studies.

- Vocational Courses - with the object of providing workers with different vocational qualifications. Courses consisting of a year's specialization followed by 6 months' apprenticeship with both technical and educational aspects supervised by specialized trainers from enterprises can be tailored to suit local or regional requirements.

  Holders of diplomas who have attended three year post-employment courses in order to complete their general and technical vocational training before going into higher education.

The 395 students in the 1983/84 year and 1 000 students in 1984/85 were trained in five specialist subjects, none relating to the Textile and Clothing Sector.

- Technical Vocational Courses, which will be discussed separately in the following section.

3.2.1 Technical Vocational Education

Technical vocational courses, designed to train students to intermediate level, last for three years (from the 10th to the 12th year of school attendance) although it is possible to qualify in 2 years. Courses include general training and technical vocational training; the latter may consist of periods during which working conditions are simulated, either after or during academic studies. Between 1983/84 and 1984/85 the number of students on technical vocational courses in different fields increased from 225 to 1 900. Courses on textiles covered Production Techniques, Design Techniques and Textile Chemistry.

Up to 1983/84 these courses were preceded by the study of technical and scientific subjects during the vocational training period ("Area B"), which included an option of specific training in textiles specializing in natural and manufactured fibres, spinning technology, fabric manufacture, dyeing, finishing and quality control. Training was however designed primarily to give a basic knowledge of production processes with some knowledge of equipment - mostly inherited from the old industrial

colleges which ceased to operate in the Seventies. Vocational training is now optional and may be included in the seventh, eighth and ninth years; the accent is on the practical aspect and initiation, part of which used to be included in the courses.

3.2.1.1 Textile and Production Techniques

The former "Area B" of scientific and technical studies now includes a practical section on weaving, knitted fabrics and finished product manufacture. The following table shows the programme for the three years in hours per week (indicating changes proposed in some teaching areas).

SUBJECT	Hours per week					
	10th	Alteration proposed	11th	Alteration proposed	12th	Alteration proposed
Quality control	(1) -	(2) -	(1) -	(2) 2	3	(2) 3
Electricity and electronics	-	-	-	-	2	-
Structure and analysis of cloth and, textile design	-	2	2	2	4	2
	-	-	-	-	4	2
Rudiments of computing	-	-	-	-	2	2
Employment legislation	-	-	-	-	1	1
Textiles and identification of fibres	2	2	-	-	-	-
Spinning technology and practices	3	2	2	2	-	2
	4	3	2	2	-	2
Weaving & woven fabric technology & weaving practice	3	2	2	1	-	1
	4	3	3	2	-	2
Dyeing technology	-	-	2	2	2	2
Printing, finishing & laboratory & dyeing practices	-	-	-	2	4	3
Elementary mechanics	-	2	-	-	-	-
TOTAL (3)	16	16	15	15	22	22

(1) To commence in 1987

(2) Curriculum proposed to replace the present curriculum in order to overcome the following shortcomings:

a) spinning and weaving (basic subjects) are taught in the three years of the course

b) introduces mechanics, a subject even more necessary than electronics

c) provides an opportunity for teaching basic statistics in quality control (data processing in the 11th year and teaching tests in the 12th year)

(3) The remaining time up to 33 hours per week is taken up with general education (Portuguese, Philosophy and a foreign language) and specific education Mathematics, Physics, Chemistry and Geometry)

The following table lists the secondary schools at which this course was available, with attendance figures for 1986/87.

	10th year	11th year	12th year
Campo de Melo (Covilhã)	11	8	3
Infante D. Henrique (Oporto)	22	13	5
Francisco d'Holanda (Guimarães)	8	5	7
TOTAL	41	26	15

A survey of the school with the most students showed that the numbers of students in each year who included textiles and fabrics as their optional subjects were as follows:

7th year	-	textiles and fabrics	- 115
8th year	-	textiles and fabrics	- 168
9th year	-	textiles and fabrics + design art	- 40

As an example we listed the equipment available at another school. (The list will be included in the appendix).

We were informed by a resigning textile training coordinator that a rather undesirable trend has been observed, namely a reduction in the practical component and increase in the theoretical component of courses because of difficulties of

providing equipment in schools and putting theory into practice in enterprises.

3.2.1.2 Textile Design Technique

This vocational course, which covers weaving, knitted fabric and finish product manufacture and is held at the Escola António Arroio in Lisbon, introduces the history of art and design instead of physics and chemistry. The following subjects are taught in the 10th (19 hours), 11th (19 hours) and 12th (23 hours) years:

- fabric analysis and structure
- design planning and technology
- work organisation
- technology and behaviour of materials
- expression and representation
- spinning and weaving technology
- textile design theory

Design relates principally to weaving, printing and soft furnishings (three workshops), although dyeing is also included.

The 10th and 11th years can take 10 students and the 12th year 6. These courses have not led to many jobs in enterprises. There is no follow-up course in engineering; the only option is weaving at the Escola Superior de Belas Artes.

3.2.1.3 Textile Chemistry

On 13th August 1986 official approval was given to this course which has been held at the Didáxis Teaching Cooperative. Vocational training, with 11, 17 and 19 hours per week for the 10th, 11th and 12th years (with general and specific teaching equivalent to Textile Technology and Production), is provided in the following subjects:

- spinning technology
- weaving technology
- knitted fabric and final product manufacture technology
- textile materials
- laboratory techniques
- introduction to statistics
- quality control

- preparation

- textile chemistry

- dyeing

- finishing and printing

- hygiene and safety

- industrial legislation

As this experimental course has only been held since 1984/85 it is only possible to give the number of students in the 10th and 11th years, i.e. ... [4].

3.3 Authorized Centres

The Institute of Employment and Vocational Training has agreements with industrial associations and some trade union associations for vocational training on a sectorial basis. The majority of the 22 agreements signed relate to vocational training centres already in operation. Two of these are in the Textile and Clothing Sector - the Textile Industry Vocational Training Centre (CITEX) in Oporto and the Clothing Vocational Training Centre (CFPIV) in Lisbon.

[4] In spite of making several attempts it was not possible to contact Didáxis.

An innovation at these centres, for which IEFP provided the entire capital and 95% of the operating expenses, is participation by those concerned (principally the industrial associations) in its training activities and the placing of participants in jobs, with the result that there are tacit agreements by enterprises offering employment in the sector in question. From the trade unions' point of view this would not be so restricting if employment opportunities were extended over a longer period and were included in more extensive, although less secure, developments.

3.3.1 Textile Industry Vocational Training Centre

An agreement was signed in 1981 by the Associação Nacional das Indústrias do Vestuário e da Confecção (National Association of Clothing and Finished Product Manufacturing Industries), the Associação Portuguesa das Indústrias de Malha (Portuguese Association of Knitted Fabrics Industries) and the Associação Nacional das Indústrias Texteis Algodoeiras e Fibras (National Association of Cotton and Fibre Textile Industries), and by the IEFP.

Its objectives are twofold:

- Vocational training
- Provision of services to the industry

Training has three major secondary objectives - teaching skills, creating awareness in young people and creating awareness in and retraining managers. In order to provide

services CITEX has built a model factory to demonstrate the manufacture of specialized products with emphasis on high quality. It will be computer controlled with a Gerber computer system for training designers and stylists.

Since January 1983 CITEX has or will have trained in the following skills:

- **Training**

Sewing woven fabrics	- 941	persons
Sewing knitted fabrics	- 213	"
Time and motion studies	- 129	"
Designing	- 58	"
Sewing machine maintenance	- 12	"
Sock making machine maintenance	- 17	"
Textile dyeing	- 12	"
Fashion design	- 14	"

- **Retraining**

Sewing machine maintenance	- 24	"
Sock making machine maintenance	- 30	"
Circular loom maintenance	- 7	"
Production foremen	- 10	"
M. T. M. 1[5], M. T. M. 2 and group training	- 10	"

[5] M. T. M. = Time and motion study

Creating awareness of managers in a wide range of areas - 810 persons

The following courses (with numbers attending) were held in conjunction with delegations from Lousada and Barcelos in a scheme for giving priority to training for labour intensive processes:

Sewing woven fabrics	Internal activities - 4 courses - 60 persons	
	External activities - 5 courses - 60 " (in enterprises)	
Sewing knitted fabrics	Internal activities - 4 courses - 60 "	
	External activities - 5 courses - 60 "	
Time and motion studies	- 2 courses - 30 "	

This type of training, which is considered basic, lasts for 5½ months and receives aid from the ESF.

Post-employment course - MTM1 and MTM2 and group training (computers at predetermined times) for former apprentices now in employment - 12 persons

Designing - one year post-employment refresher course with aid from the ESF - 2 courses - 30 "

Stylists (fashion design), 3 years
25 students commenced in 1st year, 14 finished; in the second year 25 carefully selected students over 24, with emphasis on artistic talent

Production line leader - 350 hour courses - 12 persons

Sewing machine, sock making machine and circular loom maintenance mechanics (5½ months)
3 x 12 students - 36 "
(it is planned to train mechanics for straight looms in 1988)

Textile dyeing - 1 course (6 months) - 12 "

In 1987 it is planned to introduce courses (3 years) for production foremen (generalists who will also supervise) and 3 year courses for weaving and textile design supervisors.

Equipment purchased by CITEX must be the latest and of a type which enterprises currently require. Examples are electronic and/or computer controlled looms and cutting machines. Enterprises also have chemical laboratories.

3.3.2 South Portugal Authorized Clothing Training Centre

This centre, the objectives of which are identical to the Textile Industry Training Centre, was opened in June 1984. During that year it provided training activities involving 141 students, with technology assistance activities at 12

enterprises, publicity activities at 278 organizations and 11 visits to enterprises.

667 students were involved in training activities in 1985. 32 were trained in enterprises and 30 enterprises were provided with technical assistance.

In 1986 activities are planned to make up for shortcomings in the sector by:

- training skilled labour

- providing refresher courses, retraining and re-cycling existing skilled labour

- providing technological aid to enterprises.

Training of skills will relate to:

- industrial sewing (in a training/production system)

- industrial cutting

- programming marking out and cutting

- designing

- maintenance techniques

- manufacturing techniques

Qualifications required for obtaining immediate specialized employment in a particular production sector as planners, personnel for setting out and planning production lines, production technicians, time and motion specialists, timekeepers, sewing specialists for different machines and operations, cutting preparers and cutting foremen necessitate training in a specialized production system. Units of this nature are already operating in Covilhã, Castelo Branco and Santarém and it is planned to acquire two mobile units for sewing and cutting and for maintenance mechanics.

Refresher courses are available for middle managers and managers, while retraining is principally for designing, styling and the use of new technology.

The work of the support services which have been introduced consists of providing technological assistance, investigation and standardization and providing assistance with marketing. The marketing service will study markets, collect information, process it in a databank and publicize fashion trends.

3.4 Technology Centres

These Centres were established under Decree-Law No. 461/83 of 30 December which provided for organizational and functional structures to meet sectorial requirements for the technical, technological and development assistance needed for Portuguese industry to progress in view of the country's

entry into the scientific investigation and technological development system in the E.E.C..

With the involvement of larger enterprises and the removal of restrictions on State responsibility, priority is being given to providing effective services to enterprises in the essential processing and production areas.

The object of the Centres is to assist investigation, promote vocational training and specialist technology and to provide technical and technological services by:

- providing direct assistance to commercial enterprises, particularly to resolve problems of a technical and technological nature

- testing manufacturing methods and processes and introducing them to the enterprises concerned

- studying the use of national raw materials with a view to the manufacture of new products or improvement of the quality of existing products

- cooperating with other organizations with industrial innovation in mind

- carrying out laboratory tests and analyses

- certifying conformity of products with specification and quality standards

- cooperating in standardization studies and the preparation of specifications

- organizing, coordinating and publicizing technical and technological information

- promoting and participating in technical and technological training for personnel of associated enterprises

- cooperating in the identification of development priorities

- contributing to the strengthening of links between universities and industry.

Activities of the Technological Centres are financed by the State, enterprises and associations in the sector and from the proceeds of the sale of services (for which associates are conceded special terms).

Legislation provides for standards for an experiment, now well known in the Textile and Clothing Sector, for which the University of Minho Technological Centre, the services provided by the University of Beira Interior and the Institute of Employment and Vocational Training authorized centres have been designated to take part.

Since, under the agreement on sectorial priorities for which the State, enterprises and universities will be responsible,

it will be possible to provide the necessary technical, technological and training component, these centres may have a useful role to play in the sector.

Consideration is being given to the reconstitution of a former special committee which was formed to constitute the Technological Centre for Textile Industries (CETIT). To this end a preliminary project has been prepared with a proposal for constituting the CETIT as an institution under Decree-Law No. 461/83 of 30 December.

Its areas of operation would be:

AREA I - Infrastructure resources
- a - Computers
- b - Textile information
- c - Technological infrastructure:
  - i) - Laboratory installations
  - ii) - Test and trial workshops
  - ii) - Experimental unit

AREA II - Technical and assistance activity
- a - Applied investigation
- b - Applied studies
- c - Training
- d - Technical assistance in enterprises
- e - Standardization and quality
- f - Information for the industry

It would be divided into 6 departments: Computing, Textile Information, Applied Investigation and Studies, Technical Assistance in Enterprises, External Relations, Administration and Miscellaneous. When fully operational there would be a capacity for 180 students, with a budget of 669 million escudos to be used in three stages.

3.5 Organizations

Through the various contacts visits were made to:

- I.A.D.E. - the Institut de Artes Audio-Visuais. which holds 3 year courses in art and fashion for 100 students in the first year, 30 in the second and 20 in the third. This private organization is applying for recognition of its courses by the Ministry of Education. Enterprises have been informed of the curriculum and applications received. Although this is the first year the course has been held, it is expected that students will obtain employment

- CITEM - the International Fashion Technique Centre, holds monthly courses throughout the year on styling and modelling for 12 students, and four monthly courses on time and motion studies for 12 students. 336 students have attended and most have obtained their first employment.

- Two small private institutions (Italian), which hold small courses on design and fashion for about 24 to 36 students.

4 - Regional Analysis

4.1 Introduction

It was decided to undertake regional analysis since it would make it possible not only to deal with questions common to the general characteristics of the Textile and Clothing Sector but also to provide more details of an economic, production and financial nature and cover more specific problems of the spinning, weaving and finishing of wool and mixed fibres and of cotton, artificial and synthetic fibre sub-sectors. There were two fundamental reasons for this choice:

a) These sub-sectors are more concentrated regionally than any other

b) Although their causes are common, they are varied in nature. Most concern relates to their ability to maintain the current level of employment and to start the process of adaptation on their own. The crisis is already obvious in the woollen goods sector.

Before analysing the sub-sectors regionally, it will be helpful to establish the overall distribution of the Textile and Clothing Sector in Mainland Portugal, with an indication of the number of establishments and persons working in each activity.

The following two tables show the total numbers of establishments and persons working in the sector per district, according to the 1985 M.T.S.S. Statistics Department Quadros de Pessoal.

TABLE 4.1.2.1 (ESTABLISHMENTS)

ACTIVITY CODES	AVEIRO	BEJA	BRAGA	BRAG.	CAST. BRANCO	COIMB.	EVORA	FARO	GUARD.	LEIRIA	LISBON	PORTAL.	OPORTO	SANT.	SETUB.	V.DO CAST.	VOLA REAL	VISEU	No. EST.
3.21100			75.0										25.0						4
3.21110	10.0		25.0		45.0				5.0	5.0	5.0		5.0						20
3.21120	2.1		12.0		46.6	1.0	0.5		12.6	9.4	4.2	1.0	6.8	3.1				0.5	191
3.21130	1.1		45.7		0.8	1.1		0.3	0.5	0.8	3.5		43.5	1.3	0.3	0.8		0.8	372
3.21141													100.0						2
3.21142			67.7										33.3						3
3.21150			25.0			2.9					11.8		58.8			1.5			68
3.21160											16.6		83.3						6
3.21190	4.0		24.0		6.0				2.0				64.0						50
3.21210	14.3		14.3			14.3					14.3		28.6	14.3					7
3.21220	4.1		64.5				1.7		3.3	1.7	4.1		17.4	0.8	2.5				121
3.21230	3.8		58.5		1.9						11.3		15.1	3.8		3.8		1.9	53
3.21240	14.3										14.3		42.9		28.6				7
3.21290	2.7		29.7		2.7	5.4			2.7	5.4	16.2		24.3	5.4	2.7				37
3.21300	4.5		41.5		0.6	4.3		0.1	2.1	3.7	6.9		25.4	6.9	3.0	0.6		0.3	670
3.21400													100.0						3
3.21410	29.1	1.3	3.8	1.3	3.8	3.8		3.8		5.1	7.6	1.3	31.6	2.5		2.5		2.5	79
3.21420			75.0						25.0										4
3.21510	33.3				6.6						13.3		46.7						15
3.21520	33.3									6.6			40.0			20.0			15
3.21590	100.0																		1
3.21900		100.0																	1
3.21910	18.2		9.1			9.1					36.4		27.3						11
3.21920	100.0																		1
3.21930	5.4		21.6		8.1					4.1	17.6		42.0	1.4					74
3.22010	4.1	0.2	9.0	0.3	2.6	4.6	0.7	1.2	0.7	3.2	31.5	0.9	26.4	2.9	3.9	2.9	0.9	4.1	587
3.22020	5.4		23.3		3.2	1.9	0.3	0.1	0.4	2.0	15.4	0.4	26.3	1.2	6.0	2.3	0.1	1.6	1 621
3.22030	74.1					3.7							18.5		3.7				27
3.22040	30.8		5.1						5.1		30.8		20.5	2.6	5.1				39
3.22090	3.2		25.8		3.2	3.2					22.6		35.5	3.2				3.2	31
No. Establishments	250	2	1 097	2	185	104	15	11	62	114	581	15	1 313	107	149	70	7	58	4 124
% Establishments	6.1	0.0	26.6	0.0	4.5	2.5	0.4	0.3	1.5	2.8	14.1	0.4	31.8	2.6	3.6	1.7	0.2	1.4	100.0

TABLE 4.2.1.2 (PERSONS ENGAGED IN ACTIVITY)

ACTIVITY CODES	AVEIRO	BEJA	BRAGA	BRAG.	CAST. BRANCO	COIMB.	EVORA	FARO	GUARD.	LEIRIA	LISBON	PORTAL.	OPORTO	SANT.	SETUB.	V.DO CAST.	VILA REAL	VISEU	No. PERSONS
3.21100			70.0										30.0						1 048
3.21110	3.3		11.5		29.5				12.8	2.5	2.5		35.9						485
3.21120	4.8		4.6		36.9	3.2	0.0		25.7	10.0	5.5	4.1	2.5	1.9				0.1	19 701
3.21130	0.0		51.3		0.1	0.8		0.0	0.0	0.5	1.7		42.8	2.0	0.1	0.5		0.0	75 273
3.21141													100.0						527
3.21142			97.8										2.2						414
3.21150	17.2		21.1								6.5		54.5			0.6			2 221
3.21160											1.2		98.8						415
3.21190	3.6		32.0		1.1				0.1				63.3						2 422
3.21210	7.9		1.5			19.2					6.9		63.1	1.5					203
3.21220	0.8		68.0				0.2		2.6	0.2	1.7		23.9	0.1	0.4				3 589
3.21230	2.1		69.7		0.1						1.8		22.1	3.6		0.4		0.2	1 157
3.21240	0.8										0.6		97.9		0.6				1 162
3.21290	1.6		70.4		1.5	0.3			0.2	0.4	6.5		15.1	2.5	1.5				1 579
3.21300	3.9		47.3		0.0	6.3		0.0	1.8	1,5	3.8		30.6	2.8	1.2	0.4			37 365
3.21400													100.0						95
3.21410	41.1	0.0	1.7		0.6	6.6	3.6		6.6	11.9	3.2	1.3	17.7	5.0		2.7			4 113
3.21420			72.1						1.1					26.8					183
3.21510	33.2					0.6					1.7		64.5						4 278
3.21520	22.6									5.7	17.6		45.5			8.5			646
3.21700	99.6									0.4									565
3.21900			100.0																17
3.21910	5.0		1.1			0.7					29.8		63.5						457
3.21920	100.0																		130
3.21990	12.4		32.8		2.4				0.5		6.6		44.0	1.3					2 442
3.22010	4.3	0.1	8.2	0.1	2.1	2.4	0.2	0.5	0.6	2.5	34.6	0.4	35.4	1.5	2.1	2.0	0.3	2.9	3 269
3.22020	4.1		19.1		4.6	3.5	0.4	0.0	0.5	1.0	12.4	0.3	43.8	1.2	5.4	2.5	0.1	1.3	76 201
3.22030	60.5					3.0					0.7		11.9			24.0			405
3.22040	18.2		0.1			0.1			8.2		54.7		12.4	1.7	3.2				814
3.22090	0.3		36.0		15.4						8.2		38.1	1.6				0.4	1 005
No. Persons	10 993	4	80 545	2	11 325	6 640	466	78	6 608	4 412	15 862	1 083	91 929	4 299	4 807	2 674	73	1 384	243 184
% Persons	4.5	0.0	33.1	0.0	4.7	2.7	0.2	0.0	2.7	1.8	6.5	0.4	37.8	1.8	2.0	1.1	0.0	0.6	100.0

The following conclusions may be drawn from the tables:

a) The highest concentrations of Textile and Clothing Sector establishments are in the Braga and Oporto districts, with 68.4% of the establishments and 70.9% of the Sector's personnel.

b) There is a greater concentration of personnel in the Sector than establishments, indicating that these districts contain the largest establishments in the predominant sub-sectors and the largest average size.

c) 89.2% of establishments spinning, weaving and finishing cotton and synthetic fibres are found in the Oporto and Braga districts, while about 60% of the wool establishments are around the Serra da Estrela.

d) 67.0% of the knitted fabrics establishments are in the Braga and Oporto districts.

e) Establishments mass producing clothing are more widely distributed, the highest concentrations being in Oporto (36.3%), Braga (23.3%) and Lisbon (15.4%)

f) In spite of their relatively small proportion overall, the woollen goods and spinning industries in the area of Castelo Branco, part of Guarda and some areas of Leiria are particularly vulnerable since they provide the only alternative form of industrial employment, thus creating numerous serious problems.

A study of the Textile and Clothing Sector in Portugal, especially an analysis of employment stability and the lack of training, must be carried out regionally. The four principal sub-sectors - cotton, wool, knitted fabrics and the manufacture of cloth goods - which as we have already seen account for about 90% of employment and production, could be divided into two distinct types of enterprise.

- Group I: Enterprises spinning, weaving and finishing of cotton, wool, artificial, synthetic and mixed fibres

  The oldest enterprises in the textile sector, their principal features being the use of outdated technology, insufficient capital and a lack of organizational, commercial and management structures. Improvement of these enterprises however would involve the provision of suitable staff and adjustment of staffing levels. Most enterprises would be incapable of recovery independently and the majority will never be able to recover. Restructuring must therefore be directed principally to this group.

- Group II: Enterprises weaving and manufacturing knitted fabric articles and manufacturing woven cloth articles

  Most of these enterprises have been formed since the Sixties, the majority being less than 10 years old. Their principal weaknesses are in their organization and management structures; in addition, many are too small. The majority are therefore capable of being reorganized

independently. Recovery is impossible in enterprises which are too small and unimportant socially or commercially. The use of appropriate technology, although important for planning and design, only has a marginal influence and is not a cause for concern in respect of employment.

Further examination of the first group of enterprises indicates that they are located principally in two specific regions: about 95% of employment in the cotton sub-sector is in the Oporto and Braga districts, with about 70% in three municipalities in these districts, in a region known as Bacia do Rio Ave. About 70% of employment in the wool sub-sector is in the Castelo Branca and Guarda districts, with about 60% in five municipalities in these districts, a region known as Beira Interior.

The concentration in the Bacia do Ave and Beira Interior regions of a large number of enterprises in these two sub-sectors, the viability of which is in jeopardy, gives even more cause for concern since they are the centre of economic activity in these areas; trade and services depend on the textile industry and its contribution to the economy and the employment it provides.

The industrial and regional aspects, which have been largely identified, are in fact included in the definition of a textile industry policy. The general opinion is that the economic policy for these sub-sectors/regions must be related to modernization of the industry, not only because

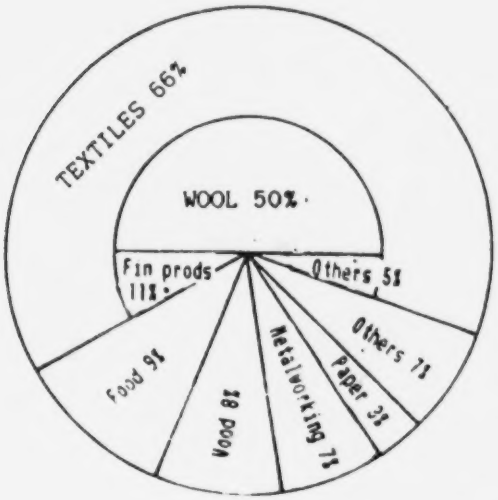
of what they represent in regional and industrial terms (for both the textile sector and manufacturing industry) but also for their influence on the national economy in terms of employment, production and exports, as was pointed out in Chapter 1.

Bacia do Douro
Beira Interior

4.2 Region I: Beira Interior and its wool industry

Since its earliest days the wool industry has been the most important economic activity in the region of Beira Interior. In spite of the reduction in numbers during the last ten years, it is now responsible for 50% of the employment in manufacturing industries in the region.

Employment structure in the manufacturing industry



4.2.1 Enterprise Structure

Before analysing the enterprise structure in the wool sub-sector in Beira Interior, two explanations are necessary.

First, although the enterprises surveyed (about 90%) only amounted to about 85% of all those in the region, they account for more than 95% of the employment and production and therefore for the purposes of this survey may be considered as being the total. Secondly, these enterprises represent a significant stable sample of the national total. Characteristics of enterprises outside the region, although depending on the districts in which they are located - poor in the municipalities of Castanheira de Pera, Avelar and Porto Mós and better in other districts - are average for the enterprises in question. Conclusions drawn from them may therefore be used for forecasting the evolution of the sub-sector nationally.

4.2.1.1 Commercial aspects

Final products

Specialization in enterprises in the wool sub-sector in Beira Interior is similar to that in other industrialized countries producing textiles of this nature. The 18 600 000 tons of yarn produced in 1984 were divided as shown in the following chart

	Carded	Combed
	43%	45%
Semi-carded 12%		

The metric count of carded yarn varied considerably from 3 Nm to 17 Nm, with an average of 7.5, about 80% being 4 Nm, 8 Nm and 11 Nm .

The average metric count for combed yarn was 35 Nm, ranging from 26 Nm to 60 Nm, about 70% being 38 Nm, 40 Nm and 44 Nm.

Semi-combed yarn had an average metric count of 18 Nm.

30% of the yarn produced is used for weaving knitted fabrics, which, as is well known, are one of the principal exports. The proportions of wool yarn used for different purposes is shown below:

Weaving woollen goods	Knitted fabrics		Others
		Knitting	
54%	31%	4%	11%

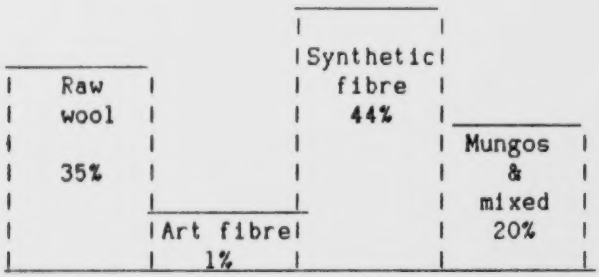
Total cloth production amounts to approximately 18 300 000 metres, at an average width of 145 to 154 metres and average weight of 251 to 300 grams for both combed and carded cloth.

57% of enterprises specialize in carded products and 43% in combed products. The survey showed that enterprises in the Covilhã region specialize in the latter while those in the

Guarda district and the municipality of Castelo Branco specialize in the former.

4.2.1.2 Raw Materials

Approximately 26 350 tons of raw materials were consumed, 87% in the form of raw yarn, the remaining 13% being combed yarn. The consumption of raw yarn was as follows:



There was a loss of about 15% between raw materials used and yarn produced - about 50% above normal, the reason for which was given earlier. Production of final products, especially combed articles, was very poor, which coincides with the poor quality of processed raw materials and out of date equipment not capable of producing finer yarn.

4.2.1.3 External Markets

Woollen products make up a considerable proportion of the textiles exported; they are in fact exported indirectly in the form of knitted fabrics and manufactured products which, as has already been said, are particularly suited for

foreign markets. About 8% of the total yarn produced is exported directly, 91% to Belgium and Luxembourg. 18% of cloth is exported - to a wider range of markets than yarn, as shown below.

United Kingdom	21%
Germany	11%
Finland	10%
France	3%
Canada	2%

4.2.2 Technological aspects

Out of the 224 200 spindles in the factories of the enterprises surveyed, 30% were for carding, 64% for combing, the remainder for semi-combing.

Of the 1855 circular looms about 47% were non-mechanical, 12% automatic and 41% shuttleless.

Of the 381 dyeing machines, 60% were for dyeing yarn and raw wool and 40% for textiles. In addition, there were 35 stenters for finishing. Of the machines for dyeing yarn and raw wool, 55% were autoclaves and 32% cabinets; of cloth dyeing machines, 75% were kiers, 12% jets, 9% autoclaves and 4% jiggers.

Labour productivity, expressed as the relationship between productivity achieved and a standard figure, was as follows:

- Spinning 63%
- Weaving 58%
- Dyeing 86%
- Finishing 60%

The average overall labour productivity is therefore 64%, a poor result indicating unsuitable use of labour.

If we use mechanical productivity calculated from the relationship between productivity achieved and standard productivity, the result would be as follows:

- Spinning 68%
- Weaving 64%
- Dyeing 67%
- Finishing 43%

The average sub-sector productivity per enterprise was therefore 67%. Although more favourable than labour productivity, there are prolonged periods of unproductivity from mechanical methods.

If we relate investment requirements with sales, we obtain the following indexes indicating the age of equipment:

- Spinning 76%
- Weaving 10%

- Dyeing 5%
- Finishing 9%

The "degree of obsolescence" is highest in the spinning sub-sector; this sub-sector is making an all-out effort to finance modernization of equipment.

Finally, from an analysis of these three technology indicators enterprises may be classified into four viability categories, enterprises in two of which would find recovery difficult.

The table below shows the results of the analysis

TABLE 4.2.2.1

	LEVELS OF PRODUCTIVITY & OBSOLESCENCE				
	Worst	Inter-mediate to poor	Inter-mediate favourble	Better	Total
Enterprises (%)	19%	46%	29%	6%	100%
Employees (No.)	2 103	4 950	3 960	1 361	12 374
Surplus employees (No.)	763	1 304	1 081	34	3 182
Production (10^4 escudos)	1 468	5 640	6 510	3 516	17 134

It is obvious from this that the situation in wool enterprises in this region gives rise to considerable concern; about 40% of production and 57% of employees are in enterprises whose viability is doubtful, and in some cases

with little chance of survival. About 26% of all employees are however surplus to actual requirements.

Finally, the following table shows the cost of electricity per kilo of product produced.

TABLE 4.2.2.2

	Minimum	Average	Maximum
Spinning enterprises	4.75	12.73	27.79
Weaving enterprises	4.75	18.16	56.20
Finishing enterprises	4.30	9.65	11.47
Enterprises including 2 or more consecutive processes	14.63	24.92	45.50

Although a breakdown of these figures for individual similar situations would provide more accurate results, these figures show that action is needed to achieve a considerable reduction in the cost of electricity.

4.2.3 Financial/economic aspects

The financial/economic situation in enterprises in the wool sub-sector in Beira Interior gives rise to as much concern as the technology situation.

In the case of the financial aspect, the principal feature is that, although enterprises are soluble, they have

insufficient capital and are seriously short of liquid asssets. The average percentage asset coverage by capital is 8.5 (the standard deviation is 56%). If however we consider actual funds (capital + loans), average cover would reach 15%, a much more favourable figure although far from the ideal minimum (25-35%). On the other hand, the safety index shows that on average working capital is about 10% of that required (a standard deviation of 98%).

From another point of view this deficiency measured n percentage of assets averages about 24% (standard deviation 52%), indicating that financial recovery necessary to meet modernization requirements will be very difficult.

With regard to the economic situation, the average profit from sales is nil, with a variation of about 8.5% (standard deviation 20%). Viability is better although still a cause for concern; total average asset profitability ("result + financial charges" in relation to assets) is 1.5% (standard deviation 20%), which is clearly low in relation to that expected in a normal situation (15 - 20%).

If we only consider the three most important indicators - coverage of assets by funds, the need for working capital in relation to assets and asset profitability - as we did for the technology situation with enterprises classified into four grades of viability, we would obtain the following result:

TABLE 4.2.3.1

LEVELS OF PRODUCTIVITY

		Intermediate			
	Poor	Unfavrble	Favrble	Better	Total
Enterprises (%)	35%	13%	38%	13%	100%
Employees (No.)	4 428	2 553	3 462	1 762	12 205
Surplus employees (No.)	1 328	694	800	317	3 139
Production	4 476	3 625	6 372	2 985	17 478

It should be noted that the totals relating to the technology and economic/financial situations are not the same since 3 enterprises were not included in the technology survey and 2 were not in the economic/financial survey.

From the figures given earlier it may be concluded that the economic/financial situation for enterprises in this sub-sector in this region is no better than the technology situation. In fact, as in the case of the former, 40% of production and 57% of employment is in enterprises whose viability makes recovery very difficult. At 43% overstaffing is high. Distribution of employment and production in the two poorest viability categories is however different; in the case of technology out of the 57% of employment, 17% is in enterprises in the poor viability category and 40% in the intermediate/unfavourable category, while in economic/financial terms 36% are in enterprises in the poor category and 21% in those in the intermediate/unfavourable category.

4.2.4 Labour aspects in an overall assessment

The distribution of employment per activity, sex and age of production workers in enterprises studied in the region is shown in the next table:

TABLE 4.2.4.1

	Sex	Distribution by Age			Total
		18 yrs	18-55yrs	55 yrs	
Spinning	Female	52	3 133	220	3 405
	Male	89	2 020	342	2 451
	Total	141	5 153	562	5 856
Weaving	Female	20	766	107	893
	Male	265	1 253	212	1 730
	Total	285	2 019	319	2 623
Finishing	Female	5	476	69	550
	Male	20	825	164	1 009
	Total	25	1 301	233	1 559
TOTAL	Female	77	4 375	396	4 848
	Male	374	4 098	718	5 190
	Total	451	8 473	1 114	10 038

The work of 24.6% of employees is not related directly to production; since this amounts to about 19% of the total number, it appears excessive. The total number of employees in the survey in the region was about 12 500.

Only 9% of workers were 55 or over, which would make it very difficult to put into operation the retraining planned for remedying the problem of overstaffing in the sector.

The following table illustrates the excess.

TABLE 4.2.4.2

Excess labour as percentage of total employees per activity and degree of viability

	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Spinning	33%	22%	10%	0%	21%
Weaving	48%	46%	32%	6%	42%
Finishing	16%	10%	10%	0%	12%
TOTAL	34%	28%	14%	2%	26%

The table shows that about one quarter of the employees in this sub-sector are surplus, the highest percentage being in the weaving sub-sector, which at 42% is compatible with its low "obsolescence index".

The figures shown in the following table were obtained from assessing the viability of the technology and financial situations together:

Table 4.2.4.3.

							TOTAL
				Intermediate			
			Poor	Unfavourable	Favourable	Better	
Employees		%	38	15	13	2	68
Employment	TOTAL	No.	10 665	4 787	11 472	3 655	30 577
		%	35%	16%	38%	12%	100%
	Spinning	(%)	45%	17%	26%	12%	100%
	Weaving	(%)	33%	22%	35%	10%	100%
	Finishing	(%)	34%	16%	44%	6%	100%
Overstaffing	TOTAL	No.	4 451	1 798	1 626	684	8 561
		%	52%	21%	19%	8%	100%
	Spinning	(%)	53%	20%	17%	10%	100%
	Weaving	(%)	50%	23%	23%	4%	100%
	Finishing	(%)	56%	17%	23%	4%	100%
Production (10^6 ESC)			19 906	13 161	32 974	13 672	79 713

The two conclusions which may be drawn from this table are: first, that about 70% of employment is in enterprises in the two viability categories with the biggest bankruptcy risk, with spinning (62%) the smallest proportion and finishing (80%) the highest and weaving (74%) near the average; secondly, most overstaffing (around 85%) is found in enterprises in these two viability categories.

4.2.5. Changes in the employment situation over the next seven years

Over the next seven years evolution of employment will depend on three factors:

- the effect of the restructuring to be implemented to assist enterprises in the sub-sector.

- the effect of the introduction of new technology in the sub-sector.

- the level of growth in the most dynamic enterprises in the sub-sector.

4.2.5.1 Effect of restructuring mechanisms

The effect of restructuring mechanisms will have to be analysed in respect of enterprises needing assistance. We will therefore use the proposal in the "Action Programme", approved by the Concelho Permanente da Concertação Social working party, which was the basis for the Ministry of

Industry and Commerce's "necessity and priority", and the declaration that the sub-sector is being restructured and consequently will first have to comply with legislation now being prepared. In view of the fairly strict conditions for acceptance stated in the proposal, the aid budget and the existence of a special clause for enterprises of "a socially important size", we consider it reasonable to accept the following:

- that, apart from those included in collective restructuring projects and those considered of a socially important size, very few companies in the poor viability category could be given aid.

- the number of enterprises to be aided classified as "unfavourable intermediate" is interesting; they are those which are part of collective enterprise reorganization projects, those considered to be of "socially important size" and about 20 -30% of the remainder, mainly enterprises which are still important in individual areas, either commercially, industrially or financially.

- almost all enterprises in the two best viability categories will be provided with aid for restructuring or recovery and development.

4.2.5.2 Effect of new technology

The effect of new technology on employment in this sub-sector will be the overstaffing calculated. For the purpose

of this survey the calculation took into consideration installed productive capacity and new technology which could be introduced. The following two tables show the employment structure which will be used for the estimation referred to.

	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Spinning	56	46	69	45	57
Weaving	26	34	21	39	27
Finishing	17	20	10	16	16
TOTAL	100	100	100	100	100

	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Spinning	55	36	46	0	47
Weaving	37	57	48	0	45
Finishing	8	7	6	0	8
TOTAL	100	100	100	100	100

The effect of new technology on employment in this sub-sector in terms of retraining for other skills and training needs will be analysed in a later chapter and included in an appendix.

4.2.5.3 Growth of enterprises

The expected growth of activities depending on the wool sub-sector (knitted fabrics and finished products) and the

anticipated increased demand for woollen products on the international market leads us to forecast a fairly positive growth rate for the remaining enterprises this sub-sector.

4.2.5.4 Changes anticipated

Anticipated changes in employment in this sub-sector, especially in this region, are shown in the next table

TABLE 4.2.5.4.1

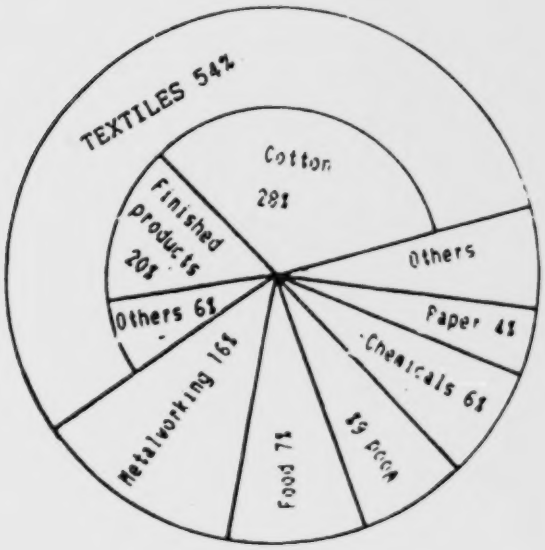
	1984	1993	
		with restructuring	without restructuring
BEIRA INTERIOR			
Spinning	7 291	5 750	2 900
Weaving	3 266	1 750	800
Finishing	1 942	1 260	470
TOTAL	12 499	8 760	3 170
NATIONAL			
Spinning	10 217	8 900	6 100
Weaving	4 576	2 700	1 700
Finishing	2 723	1 950	1 000
TOTAL	17 516	13 550	8 800

4.3 Region II - Bacia do Ave and its Cotton Industry

Although not as old as the woollen goods industry since it only became established when it was possible to obtain cotton easily from the former Portuguese colonies, the cotton industry has been established in Rio Ave long enough

for it to constitute one of the most important activities economically, in spite of the fact that there is more industrialization and diversification of economic activities in the region than in Beira Interior. At present it represents 28% of the employment in manufacturing industry in the region.

Employment structures in processing industries



4. 3. 1. Enterprise structure

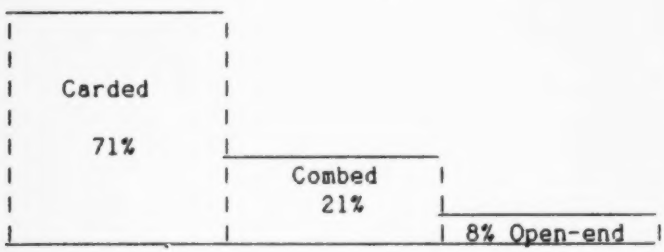
As in the case of the wool sub-sector in Beira Interior about 28% of enterprises in the region were surveyed although they represented a less significant sample. They

do however account for 70% of employment in the region making the sample representative of the region in question and even of the national cotton industry (45%).

Enterprises surveyed in fact are a stable sample periodically surveyed by the Ministry of Industry and Commerce. In addition, two thirds of the workforce employed in the cotton sub-sector in Portugal and two thirds of the country's production is found in the region.

4.3.1.1 Commercial aspects

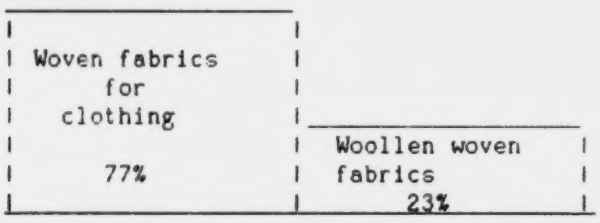
The enterprises surveyed in the cotton sub-sector are not specialized to the same extent as those in industrialized countries. In 1984 yarn production amounted to 90 400 tons distributed as follows:



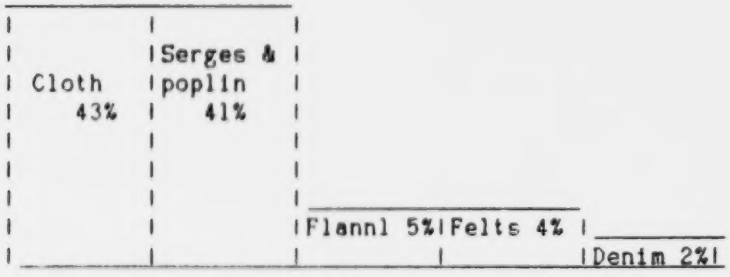
The metric count of carded cotton yarn ranged from 1 to 45 Nm, with most (about 73%) from 16 Nm to 30 Nm and an average of 23.3 Nm. For combed yarn the average was 31 Nm, with a range from 1 to 80 Nm and the most common (about 83%) from 21 to 40 Nm. The average metric count of open-end yarn was

10.4 Nm, ranging from 1 Nm to 30 Nm, the most common (87%) being between 6 Nm and 15 Nm.

23% of the cloth produced was used for the manufacture of the highly competitive woollen goods which are suitable for export.



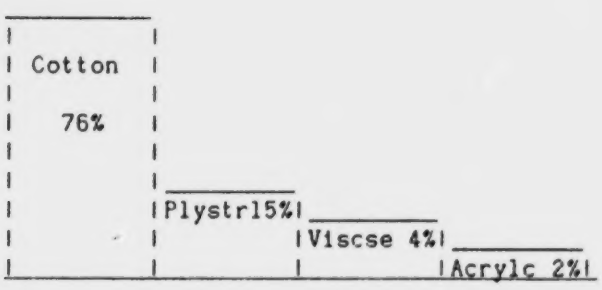
Total woven fabric production was 194 000 000 linear metres, averaging 168 cm wide, 166 gm/m² in weight with a density of 54.6 threads per inch. The proportions of cloth production per type were as follows:



4.3.1.2 Raw materials

Approximately 118 400 000 tons of raw materials were used, 84% in the form of raw cotton, 14.6% yarn and 1.4% tops.

The following chart shows the distribution of raw materials.



The 11% loss in the production of yarn from raw materials is acceptable. If however we look at the low metric count and high percentage of carded yarns, we may conclude that poor quality raw materials have been used, as in the case of wool yarn. The age of machinery and its unsuitability for high quality production are other factors contributing to this poor performance.

4.3.1.3 External markets

There is a considerable demand for the export of articles in this sub-sector either directly, or indirectly through the knitted fabric and finished product manufacturing industries. 12% of yarn and 50% of fabric were exported directly.

Exports of yarn were as follows:

- E.E.C. 90%
- E.F.T.A. 10%

Exports of woven fabrics were:

- E.E.C. 74%
- E.F.T.A. 10%
- Other countries 16%

4.3.2 Technological aspects

Of the 896 300 spindles for spinning in the factories of enterprises surveyed 99% were circular spinning looms and only 1% open-end. There are about 112,500 spindles for twisting. The average age of these machines is 19 and 21 years respectively.

Out of about 7 160 looms, 56% were automatic with shuttles, 28% automatic without shuttles, 13% with high speed shuttles, 1% air/water jets and only 1% non-automatic with shuttles. The average ages of looms were: automatic shuttle 21 years, non-automatic 30 years, with the remainder averaging 9-10 years.

Out of a total of 370 dyeing machines, 52% were for yarn and 48% fabric dyeing. 61% of the yarn dyeing machines were autoclaves and 21% cabinet, the remaining being pressure/immersion types. Of the cloth dyeing machines 65% were jiggers, 11% Foulards, 8% continuous, 4% semi-continuous, 5% jets and 2% kiers. The average age of these was between 10 and 20 years. Out of a total of 205 finishing machines, 26% were stenters, 25% carders, 13%

calenders, 12% trimmers and 8% gassers. The average age was approximately 17 years.

In enterprises surveyed labour productivity efficiency in relation to a standard was as follows:

- Spinning 42%
- Weaving 90%
- Dyeing and Finishing 76%

The overall average labour productivity was 61%, a low figure indicating inefficient use of labour in these processes. Mechanical productivity measured against a standard was as follows:

- Spinning 81%
- Weaving 76%
- Dyeing and Finishing 42%

The average of 65% indicates fairly long unproductive periods.

Modernization "effort", measured by the relationship between investment requirements and assets, was as follows:

- Spinning 60%
- Weaving 25%
- Dyeing and Finishing 15%

The highest "level of obsolescence" is in the spinning sub-sector.

In an overall assessment of technological aspects - productivity and age of equipment - enterprises are classified into three viability categories, in the same way as wool. The results are shown in the table below:

TABLE 4.3.2.1

	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Enterprises	61%	18%	10%	7%	100%
Employees	14 607	7 929	4 701	4 408	31 645
Excess labour	3 990	1 885	609	876	7 360
Production	32 132	21 089	13 633	16 545	83 404

By coincidence the viability of enterprises in this sub-sector in the region is the same as their technology situation - about 40% of production and 57% of employment is in enterprises in the two worst viability categories. At the same time, in relation to new technology overstaffing amounts to around 25%.

4.3.3 Economic/financial aspects

The financial situation of enterprises in the cotton sector is better than in the wool sub-sector in Beira Interior. The average asset cover by capital is 14% (almost equal to the funds themselves), the standard deviation being 51%. On the contrary, the liquidity situation is worse - on average there is 100% deficiency in working capital. In relation to assets the working capital requirement is 35%, which would require an enormous injection of funds to replace this capital.

The economic situation is also better. Profitability from sales is nil and amounts to about 7.4% (standard deviation 25%), while viability, measured in terms of asset profitability, is positive at around 16% (with an average deviation of 65%).

Finally, we have classified enterprises into the usual four viability categories, only considering coverage of assets by the funds themselves, the need for working capital in relation to assets and asset profitability. The following table shows the results:

TABLE 4.3.3.1

	Viability				
	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Enterprises	22	15	30	28	95
Employees	6 391	3 686	4 965	19 425	34 467
Excess labour	1 680	852	2 331	3 790	8 653
Production	8 221	10 272	12 537	59 412	90 442

The totals for the technology and financial situations are not equal since they do not relate to the same group of enterprises.

Two unusual conclusions may be drawn from this table: first, the economic/financial situation is relatively better than the technology situation - first, only 20% of production and 29% of employment is in enterprises in the two worst viability categories; secondly, and logically from the first conclusion, most overstaffing is found in the two best viability categories.

Overstaffing in enterprises in this sub-sector also amounts to about 25%.

4.3.4 Labour aspects in an overall assessment

The following table shows production workers in the enterprises studied in the region according to activity, sex and age.

TABLE 4.3.4.1

		Age groups				
	Sex	18		18-55	55	TOTAL
Spinning	Female	3.8%	322	7 857	3.7% 314	8 493
	Male	5.3%	441	7 092	9.5% 791	1 105
	Total	10.2%	763	14 949	1 105	16 817
Weaving	Female	10.2%	503	4 364	1.4% 69	4 936
	Male	13.8%	711	4 015	8.3% 428	5 154
	Total		1 214	8 379	497	10 090
Finishing	Female	5.5%	61	1 029	2.6% 29	1 119
	Male	4.0%	102	2 295	6.0% 154	2 551
	Total		163	3 324	183	3 670
TOTAL	Female		886	13 250	412	14 549
	Male		1 254	13 402	1 373	16 028
	Total		2 140	26 652	1 785	30 577

3 057 employees do not work on production; this amounts to 9%, an acceptable proportion. The total number of employees in enterprises surveyed for the technology aspect was 32 668.

The survey showed that only 6% of workers in the region were over 55. It would therefore not be possible to prevent the

effects of overstaffing by introducing early retirement. The table below shows the overstaffing situation.

TABLE 4.3.4.2

Percentage overstaffing per activity and viability category

	Poor	Intermediate		Better	TOTAL
		Unfavourable	Favourable		
Spinning	39%	39%	21%	27%	33%
Weaving	42%	28%	18%	10%	27%
Finishing	16%	10%	5%	7%	10%
TOTAL	38%	31%	17%	21%	28%

It will be seen from this table that more than a quarter of the overstaffing occurs in enterprises surveyed in the sub-sector in this region. Most is found in the spinning industry (33%), although there is also a high proportion (27%) in the weaving sub-sector - a situation contrary to that in the wool sector.

The next table in the final assessment shows the degrees of technology and economic/financial viability combined:

Table 4.3.4.3.

				Intermediate			TOTAL
			Poor	Unfavourable	Favourable	Better	
Employees		%	38	15	13	2	68
Employment	TOTAL	No.	10 665	4 787	11 472	3 655	30 577
		%	35%	16%	38%	12%	100%
	Spinning	(%)	45%	17%	26%	12%	100%
	Weaving	(%)	33%	22%	35%	10%	100%
	Finishing	(%)	34%	16%	44%	6%	100%
Overstaffing	TOTAL	No.	4 451	1 798	1 626	684	8 561
		%	52%	21%	19%	8%	100%
	Spinning	(%)	53%	20%	17%	10%	100%
	Weaving	(%)	50%	23%	23%	4%	100%
	Finishing	(%)	56%	17%	23%	4%	100%
Production (10^6 ESC)			19 906	13 161	32 974	13 672	79 713

Although the situation is much more favourable than that in the wool industry in Beira Interior, enterprises surveyed in this sub-sector in the region still cause concern: 50% of employment is in the two viability categories with the greatest risk of bankruptcy; in spinning employment is very high (62%), in weaving and finishing it is average; most overstaffing (about 73% of the total) is in enterprises in these two viability categories.

4.3.5. Changes in the employment situation in the next seven years

4.3.5.1 Factors influencing the employment situation

Changes in the employment situation over the next seven years will depend on the same basic conditions considered for the wool sub-sector in Beira Interior and described in 1.2.

The form of action to be taken is not known since there has been a delay in implementing the legislation covering restructuring of the sub-sector. The types of mechanism being prepared for the wool industry are similar to those which could be applied to enterprises in this branch of the textile industry. In view of the similarity of the situations this could be satisfactory provided that it is carried out in proportion.

The next tables show the employment and overstaffing structures to be used for estimating changes in employment:

TABLE 4.3.5.1.1

Employment structure (%)

	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Spinning	62%	50%	47%	63%	55%
Weaving	28%	40%	37%	30%	33%
Finishing	10%	10%	16%	7%	12%
TOTAL	100%	100%	100%	100%	100%

TABLE 4.3.5.1.2

Excess employment (%)

	Poor	Intermediate		Better	Total
		Unfavourable	Favourable		
Spinning	64%	61%	57%	83%	64%
Weaving	31%	36%	38%	15%	31%
Finishing	4%	3%	5%	2%	4%
TOTAL	100%	100%	100%	100%	100%

4.3.5.2 Changes anticipated

Estimated changes in employment in the sub-sector, in particular in enterprises in this region, are shown in the next table.

TABLE 4.3.5.2.1

	1984	1993	
		with restructuring	without restructuring
BEIRA INTERIOR			
Spinning	16 817	12 800	8 800
Weaving	10 090	9 500	6 100
Finishing	3 669	4 000	2 400
TOTAL	30 577	26 400	17 300
NATIONAL TOTAL			
Spinning	40 674	34 050	31 900
Weaving	24 404	25 300	22 100
Finishing	8 878	10 900	8 700
TOTAL	73 956	70 250	42 700

5. Anticipated changes in the Textile and Clothing Sector

Following the information given in the previous sections, with knowledge of the sector's characteristics it is now necessary to attempt to estimate changes in the Sector and their effect on training requirements and the implementation of a social policy. This policy must depend to a certain extent on whether the Textile and Clothing Sector should comply with an industrial restructuring policy or whether it should be allowed to be influenced by market forces. This situation will arise as our economy becomes increasingly integrated into the E.E.C. and product specialization is introduced.

5.1. The Sector in the Community - a brief note

In the 1984 report on the policy of competition within the EEC the reasons for difficulties in the sector were said to be the depressed market and imports from countries with lower production costs. After closing down some enterprises, recovery was initiated by influencing productivity - by the improvement of marketing and management techniques and the development of new ranges of high quality products using the latest technology to increase competitiveness. It is therefore easy to understand the aim of the Commission, which is to ensure that aid is not just to alleviate the situation by transferring structural and employment problems from one country to another.

In most EEC countries the result of this situation was a severe reduction in employment in the Textile and Clothing Sector, especially between 1980 and 1984. Reductions very often amounted to considerably more than a third of the total labour force. In all EEC countries except Denmark there is a tendency towards increased reduction in employment in this sector.

The following is an example given by the Clothing and Textiles Industries Sectorial Consultative Committee in June 1986.

	Persons (thousand)					
					% of total processing	
Country	1978		1984		industry in 1985	
	Textiles	Clothing	Textiles	Clothing	Textiles	Clothing
W. Germany	348.5	361.2	262.8	275.5	3.1%	3.3%
France	322.4	334.5	255.1	290.9	4.9%	5.6%
Italy	477.9	555.4	370.9	-	7.7%	-
Netherlands	39.2	33.3	23.0	18.7	2.6%	2.1%
Belgium	75.6	61.3	61.4	44.2	6.9%	5.1%
U.K.	444.9	42.7	287.1	312.3	4.1%	4.6%
Denmark	15.5	23.5	15.6	17.0	3.3%	3.6%
Ireland	14.7	18.9	9.2	16.2	4.7%	8.3%

It will be seen from this table that the Textile and Clothing Sector in Portugal forms a considerably larger proportion of the nation's industrial sector than in other EEC countries.

The easing of external pressures and the dominant effect of internal prices will very probably lead to an improvement in market conditions in the next few years. The cost of labour

on an hourly basis, including social security payments, in the spinning and weaving sub-sectors in Portugal is the lowest in the EEC - a little over a third of that in Ireland, the country with the next lowest wages. The wage index is about one seventh of that in countries with higher labour costs. Although increased productivity resulting from the introduction of the latest technology will probably restore competitiveness in some activities, it is becoming more difficult for the clothing sub-sector.

According to Comitextil bulletin 86/2-3, in 1985 Portugal was not one of the 10 principal suppliers of textile fibres to the Community but was the third largest supplier of yarn and cloth after Switzerland and Austria and the third largest supplier of clothing after Hong Kong and South Korea.

Portuguese exports are governed partly by Protocol no. 17 of the Membership Treaty which fixes textile product exports to the Community up to 1988 and to Spain up to 1989. Quotas increase in real terms by 10% to 14% or 15%, considerably greater than production growth in the Portuguese Textile and Clothing Sector.

There are however factors which may curb excessive optimism. In 1985 Portugal, one of the ten major suppliers of yarn and fabrics, contributed 9.9% of the total. Of these countries Spain, which produced 8.2%, is the only other Community member. In the case of clothing Portugal contributed 11.4%; all other supplier countries being outside the EEC and, with

the exception of Austria, all have low labour costs. In this sub-sector in Europe productivity per employee and investment per employee are closely correlated.

Since Portugal now belongs to the EEC, it has relatively large opportunities for expansion, especially of finished products. However, since the Community was included in the G.A.T.T. negotiations Multi-Fibre agreement (its last version ceased to be valid on 31.7.86), an automatic restriction to a 5.5% increase in exports in real terms is expected from countries with low labour costs.

Finally, the Textile and Clothing Sector in Portugal is in a Community textile industry which, although losing its position as a world producer, is the most modern in the world and has more capital invested per employee than any other country whatever their labour costs, as shown in the following 1985-86 (winter) labour costs per hour published in U.S.A. by Werner International.

EEC/9 -	7.85	Hong Kong -	1.81	Taiwan -	1.6
Korea -	1.57	Brazil -	1.43	Portugal -	1.27
Turkey -	1.06	Pakistan -	0.31	China -	0.2

5.2. Trends in industrial, employment and vocational training policies

Portugal was particularly badly affected in the middle of the Seventies by the economic crisis caused by increases in oil prices, the value of the dollar and import costs and by

political and social instability which affected international relationships and caused a loss of competitiveness.

Enterprises in the Textile and Clothing Sector therefore became aware of signs of a crisis which its weak structure was not capable of withstanding.

The employment policy at that time was based on aid to maintain jobs; over 80% of all subsidies were paid anticipating that the crisis would be surmounted on a short or medium term basis. Although aid could not be said to be the decisive factor for the sector, the fact that because of the importance of employment to the sector it was directed more towards large enterprises contributed towards maintaining structural weaknesses with practically no effect on adaptation to the new situation. The textile and clothing industries were taking almost a third of the aid between 1976 and 1984, a large part going to the clothing sub-sector; in 1984 aid paid to all sectors amounted to about 4 billion escudos.

At the end of the Seventies a number of restructuring projects were planned as part of the industrial policy, commencing with the Textile and Clothing Sector. The Ministry of Industry and Energy at the time, with cooperation from Werner International and various Ministerial and industrial associations, drew up a framework law for restructuring the Textile and Clothing Sector based on aid to viable enterprises in difficulties. The object

was to reduce the number of enterprises from 1 700 to 600 by a process of vertical integration. Expansion of markets enabled increased production to be absorbed, even to the extent of maintaining and increasing levels of employment.

In recent years there has been emphasis on the following aspects:

a) Implementation of measures to assist the unemployed and those whose jobs are at risk by payment of an unemployment subsidy, equalization of the situation for the unemployed, suspension of employment contracts linked to performance, payment of overdue wages and vocational programmes.

b) Growing concern with the creation of employment and economic activities, especially for the most disadvantaged social groups (e.g. young people unemployed for a long period and the handicapped) sectors with privileged employment (cooperatives, craftsmen) and disadvantaged regions (local employment initiatives).

c) Integration of policy measures into the Management Guidelines of the European Social Fund (ESF) and those orientated towards the aspects in b).

The employment policy will apparently therefore be more orientated towards counteracting negative effects (of a

curative or preventive nature or an alternative to redundancies in the Textile and Clothing Sector).

The vocational training policy is supported by two very important provisions which also relate to refresher courses.

a) The Apprenticeship Law - Decree Law no. 102/84 of 29 March which establishes apprenticeship legislation permitting a system of continuing education (theory/practice) with a basic role for enterprises financing it, and an apprenticeship subsidy decreasing in value over four years (100%, 70%, 50% and 40%).

   The subsidy constitutes 30%, 40%, 50% and 60% respectively of the minimum wage for the sector. So far it is planned to introduce it into the metalworking, construction, food and agriculture and services sectors.

b) The Law of Cooperative Training - Decree Law no. 165/85 of 16 May. This law regulates the relationship of the Institute of Employment and Vocational Training with institutions which provide training, including the authorized centres.

   16 different courses may be accepted, including those designed to meet special requirements or adjust to the consequences of changes in the textile industry. As far as the relationship with the European Social Fund is concerned, none of the applications for activities

submitted to it are sent through the IEFP and no applications submitted to the IEFP are sent to the ESF.

The industrial policy, which resulted from verification that the "SIII" was insufficient to influence certain types of investment, was later directed at action in the following ways:

a) Regional Promotion Systems - Decree Law no. 283/A/86 of 5 September and Order no. 495-A/86 of 5 September which provides for aid for the creation of new production units and expansion of units already in existence, provided that they move to another region, and for investigation, development and demonstration projects and projects for modernization and innovation. Promotion is on regional lines, one associated with job creation, the other with innovation and modernization of the Portuguese industry.

   Financial aid amounts to up to 2 million escudos, or one third of applications, and relates to buildings, installations, equipment, transport, promotion and marketing. Enterprises in the sectors being restructured are excluded.

   Measures less directly involved, e.g. those associated with tax exemption for the reinvestment of profits (Decree Law no. 179-c/86 of 18/86) and encouragement of energy saving and development of new forms of energy (Decree Law no. 250/86 of 25 August)

b) Aid for Restructuring Sectors in difficulty - Decree Law no. 251/86 of 25 August - which lays down action for restructuring sectors for which the Ministry of Industry and Commerce is responsible under a joint order from the Ministry and the Ministries of Finance, Planning and Administration and of Employment and Social Security. Before restructuring is sanctioned, a detailed study must be made of the economics, financial investment, location, markets, competitiveness, technology and use of energy in respect of the enterprises concerned and, after hearing the opinion of the social partners and regional organizations, it must be ascertained if the sector is concentrated regionally. Having defined the scope of restructuring, the organization responsible for its implementation and sources of finance will prepare a programme containing the following:

- guidelines;

- objectives to be achieved;

- measures to be taken during the restructuring period, such as diversification, improving enterprise size, improving product design and quality, rationalization and modernization of production, marketing and management;

- actions to be taken in respect of retraining, labour mobility and training operators and technical staff;

- the maximum amount of aid to be granted and the timetable anticipated for the tasks to be undertaken.

Aid will be provided by incentives in the form of finance sharing, or tax benefits in the form of tax reduction or exemption. Joint participation in finance is also planned for the creation and development of infrastructures relating to technological assistance, training and marketing. The last parts of Decree Law no. 251/86 give details of processes of granting tax and financial incentives not relating to actions envisaged in the social employment and vocational training policy; this also permits greater scope for manoeuvre.

There is a trend in the industrial policy compatible with production structure modernization and rationalization, offered by aid institutions to the industry and to cooperation with investigation and training organizations. It also appears that in the worst cases the amount of aid available increases the more it conforms with the adaptation and improvement needs of the production system.

Measures under the employment and vocational training policy would therefore consist of a number of associated provisions, which are provided under the agreement between the social partners and involve cooperation between relevant institutions and organizations. They are principally:

- consultancy and vocational guidance

- training in different skills to be provided where required

- technical and financial aid for the promotion of employment

- tax benefits

- vocational programmes

- guarantee of compensation or redundancy payment

- early retirement or similar measures

The negative effect of restructuring on employment encountered in the other EEC countries is probably the main reason for this social policy. Under Decree Law no. 152/86 sectors in which there were special difficulties in adapting to technological and commercial changes associated with unsuitable enterprise structures, or where there has been a decline, stagnation or slow growth are considered for restructuring. Modernization and innovation projects defined in Decree Law no. 183-A/86 tend to be more capital intensive and have a greater employment/GDP ratio than current production structures and involve more intensive training.

5.3 Estimation of vocational training and other activity requirements

When first approaching this problem from the quantitative point of view, it is possible to estimate the evolution of

employment per activity from information from the Direcção Geral da Indústria, as has already been done for the regions. This method was chosen because of the need for uniformity and to ensure that the information was compatible with the types of job and regional analysis of the productive process stages. There is a considerable difference in the mass produced clothing sub-sector, which is considered problem-free, for which growth is forecast and which has a particularly large number of apprentices (24 000) - possibly a weak factor in an activity in which there are fewer problems of suitability for jobs. In the case of other activities their structures in relation to the industry are almost identical, thus making it easy to make predictions. To approach a problem using an average may also be a good principle, provided that we consider that there are definite chances of action.

Table 5.3.1 shows the evolution of employment anticipated during the 1984-1993 period with restructuring and without restructuring, from the worldwide increase in the past, to the increase in world demand anticipated and finally the growth expected in the home market .

Table 5.3.2 attempts to indicate employment requirements per skill using a typical structure defined by the O.E.C.D. and taken from the work described in no. 18 of the bibliography.

TABLE 5.3.1.

Code	Sub-sector	1984	1993	
			with re-structuring	without re-structuring
3 211 2 0	Spinning, weaving & finishing wool & mixed fibres	17 516	13 550	8 800
3 211 3 0	Spinning, weaving & finishing cotton, artificial, synthetic & mixed fibres	73 956	70 250	42 700
3 211 4 0	Spinning, weaving & finishing soft & mixed fibres	1 034	850	850
3 211 5 0	Manufacture of trimmings	1 702	1 700	1 700
3 211 5 0	Lacemaking	566	450	450
3 212 1 0	Manufacture of canvas and similar articles	218	200	200
3 212 3 0	Embroidery	1 292	1 100	1 100
3 212 4 0	Sack making	1 539	1 200	1 200
3 213 0 0	Knitted fabrics industry	31 389	40 000	40 000
3 214 1 0	Carpet making	3 648	3 500	3 500
3 215 1 0	Rope, cord & twine making	3 700	3 300	3 300
3 215 2 0	Net making	492	300	300
3 219 1 0	Manufacture of oiled and waxed waterproof fabrics	863	500	500
3 220 2 0	Mass production of clothing	45 034	52 500	52 500
3 220 3 0	Hatmaking	511	250	250
TOTAL		183 460	189 650	157 350
	Average annual rate of growth	-	+ 0.3%	- 1.7%

Table 5.3.2

		With re-structuring		Without re-structuring	
	1984	1992		1992	
Senior management	734	3 982	+ 3 248	3 304	+ 2 570
Middle management, foremen, overseers, team leaders	7 738	16 500	+ 9 162	13 689	+ 6 351
Mechanics and other highly skilled workers	1 101	8 723	+ 7 622	7 238	+ 6 137
Machine operators	167 132	154 944	- 12 188	128 555	- 385 771
Others	7 155	5 500	- 1 655	4 563	- 2 592
TOTAL	183 460	189 650	unknown	unknown	157 350

It is anticipated that the following changes in employment levels will take place between 1984 and 1993:

- In the spinning, weaving and finishing cotton and synthetic fibres sub-sectors, a reduction of 5% with restructuring and 42.2% without restructuring under the assumptions already made in regional analysis. The greatest reduction will occur in the spinning sub-sector.

- In the spinning, weaving and finishing of wool and mixed fibres sub-sectors; using the regional analysis

assumption reductions anticipated with and without restructuring are 22.6% and 49.8% respectively . The effect will be greater in the weaving and finishing sub-sectors.

- As an example, in the knitted fabrics sub-sector there was an estimated reduction in employment of 3% to 5% due to the effect of the use of new technology in the design, planning and cutting activities and a 3% to 4% annual increased demand for clothing from knitted fabrics on the home and export markets. These figures are considerably below international forecasts, i.e. they are conservative estimates. In the case of clothing manufactured from knitted fabrics, the increased demand is estimated at 2% to 2.5% per year.

  It is anticipated that recovery in the building construction sector will be such that it will take the surplus production of the carpet industry.

  The rope, cord and twine making industry will adapt to new technology and synthetic raw materials.

  A considerable number of jobs in the net making industry will be lost since it is not competitive.

A rather disturbing situation has thus been established, although it is not so serious when we consider that it will be possible to make available employment and vocational training facilities provided with reasonable resources, to

promote restructuring and that resources will generally be adequate for the size of the problems.

As far as jobs are concerned, the major requirement is the training (with and without restructuring) of senior managers, middle managers, foremen, overseers, team leaders, mechanics and other highly skilled personnel.

The machine operators and workers connected principally with manual skills who for a long time have been in the need of training are listed on the next pages, with the symbols (+), (-) and (=) indicating respectively whether their numbers have increased, decreased or remained steady.

A - Clothing mass production

Finisher (-)

Assistant modeller (+)

Assistant cutter (-)

Hand embroiderer (-)

Machine embroiderer (-)

Invisible mender (-)

Production line or group leader (=)

Manager - production and/or quality (+)

Head of section (=)

"Colador" (-)

Cloth controller (-)

Machinist (-)

"Distribuidor de trabalho" (-)

Sizer or "prunidor" (-)

Probationer (=)

Modeller (+)

Supervisor (+)

Clerk (+)

Presser (-)

Trimmer (-)

Production recorder (+)

Knitter (-)

Examiner (+)

"Riscador" (+)

Inspector (+)

B - Spinning of carded yarn and yarn preparation (wool)

Carding technician (+)

Head of section (=)

Assistant head of section (=)

Manufacturing assistant/assistant controller (+)

Weigher (-)

Preparer of batches for carding (-)

Carder (-)

"Aparateiro" (-)

Spinner (+)

Spinning machine operator and/or yarn preparer (=)

Handler (-)

Carding, combing, spinning of carded yarn and yarn preparation

Carding technician (+)

Combing technician (+)

Head of section (=)

Blender (-)

Assistant head of section (=)

Manufacturing assistant and/or assistant controller (+)

Weigher (-)

Carder (-)

Fibre processing machine operator (-)

Combed fibre printer (-)

Steamer (-)

Combing and spinning preparation machine operator (-)

Spinning machine and/or yarn preparation machine operator (-)

Handler (-)
Baling machine operator (-)

Yarn and twisting section
Head of section (=)
Assistant head of section (=)
Manufacturing assistant and/or assistant controller (+)
Yarn weigher (-)
Steamer (-)
Yarn preparation machine operator (-)
Handler (-)

Weaving section
Designer (+)
Assistant designer (+)
Head of section (=)
"Afinador" (+)
Assistant head of section (=)
Manufacturing assistant and/or assistant controller (+)
Weaver (-)
Felt and/or cloth weaving machine operator (-)
Engineer (-)
"Colador" or "enrolador"(-)
Presser (-)
Tackler (+)
Warper (=)
Yarn feeder(-)
Pirn winder (-)
Winding machine operator (-)
Handler (-)

Dyeing section

Dyeing technician (+)

Head of section (=)

Assistant head of section (=)

Assistant manufacture controller (+)

Dye weigher (-)

Dyeing apparatus and machine operator (-)

Handler (-)

Dryer (-)

Steamer (-)

Finishing section

Finishing technician (+)

Head of section (=)

Finished fabric examiner (+)

Assistant head of section (=)

Assistant manufacture controller (+)

Finishing machine operator - dry section (-)

Finishing machine operator - wet section (-)

Inspector (-)

Scourer (-)

Invisible mender(-)

Selvedge machine operator (-)

Handler(-)

Yarn feeder(-)

Printing section

Head of section (=)

Assistant head of section (=)

Paste weigher or preparer (-)

Printer (-)

Washer or fixer (-)

C - Woven and knitted fabrics (cotton)

Opening machine operator (-)

Assistant head of section or foreman (=)

Manufacturing assistant or assistant controller (+)

"Afinador" (+)

"Afinador-montador" (+)

Stretcher (-)

"Alfinetedeira" (-)

"Ajuntadeira" (-)

Assistant opening machine operator (-)

Assistant "afinador" (+)

Assistant stretcher (-)

Assistant bleacher (-)

Assistant calenderer (-)

Assistant carder (-)

Assistant designer (=)

Assistant sizer (-)

Assistant printer (-)

Laboratory assistant (+)

Assistant needle loom operator (-)

Assistant coating machine operator (-)

Assistant Soutache rope making machine operator (-)

Assistant fringe or galloon machine operator (-)

Assistant knitting machine operator (-)

Assistant Saurer and similar machine operator (-)

Assistant press operator (-)

Assistant production line assistant (-)

Assistant felt manufacture machine operator (-)
Assistant stenterer (-)
Assistant dryer (-)
Assistant dryer (-)
Assistant dyer (-)
Assistant steamer (-)
Laboratory technician (physical and/or chemical tests) (+)
"Apanhadeira de malhas ou rendas"
Overseer (=)
"Atador de teias e filmes" (=)
Tackler (=)
Heckler (-)
Assistant sleeve inspector (-)
"Avivadeira (-)
Winding machine operator (-)
Embroiderer (-)
"Borrifador (-)
Bleacher (-)
"Brunidor" (-)
Calenderer (-)
Pirn winder (-)
Raw yarn or fabric carder (-)
"Carregador de continous e tornes" (-)
"Centrifugador" (-)
Invisible mender - knitted fabrics or lace (-)
Head of quality control (+)
Head of organization or production (+)
Head of laboratory or chemist (+)
Bale or reel collector (-)

Invisible sewer (-)
Sizer - narrow fabrics (-)
"Colocador de lamelas" (=)
"Colorista" (-)
Forklift truck and/or tractor driver (-)
Shape preparer (-)
Production controller (+)
Quality controller (+)
Water inspector (=)
Spinner (-)
"Copsadora" (-)
Belt operative (-)
Hand cutter, trimmer or "Riscadeira" (-)
Mechanical cutter operator (-)
Pile cutter (-)
Machinist (-)
Designer (-)
Decatiser operator (-)
Plaiter (-)
Technical director (+)
Yarn winder or skein maker (-)
Folder (-)
Parts packer (+)
Packer (-)
Coating/lining machine operator (-)
General foreman (=)
Waxer (-)
Paster (=)
Mechanical or hand packer (-)
Cotton machine threader (=)

Narrow fabric sizer (-)
Sizer (=)
Bobbin sacker (-)
Sorter (-)
Sweeper (-)
Rag cutting machine operator (-)
"Esmerilador" (-)
Block, roll or gun stamp operator (-)
Spreader machine operator (-)
"Fechadeira" (-)
"Fixador de tecidos" (-)
Photo-engraver (+)
Gasser (-)
"Humidificador" (-)
Roller or stretcher operator (-)
Washerwoman (-)
Frame or table washer (-)
Pirn or bobbin cleaner (-)
Machine cleaner (+)
Oiler (+)
Welder (-)
Needle loom operator (-)
"Bordar de cabeças" machine operator (-)
Circular hosiery machine operator (-)
Circular and Jacquard loom operator (-)
Cotton, Ketten and Raschel machine operator (-)
Rope making and Soutache machine operator (-)
Fringe or galloon making machine operator (-)
Gold or silver braid making machine operator (-)
Knitting machine operator (-)

Hand, power-driven or automatic straight loom operator (-)
Saurer and similar machine operator (-)
Marker (-)
Measurer or roller (-)
Mercerizer (-)
Foreman or head of woven fabrics section (+)
Foreman or head of section (+)
Modeller (+)
Supervisor (+)
Tackler (+)
"Noveleiro/noveleira (-)
Production checker (-)
Production line checker (-)
Air conditioning operator (+)
Cops operator (-)
"Operador de extensão" (-)
Felt manufacture operator (-)
Cutting machine operator (-)
Travelling crane operator (=)
Felt preparation operator (-)
"Oxidador (-)
Pantograph operator (=)
Comber (-)
Weigher (-)
Chemical weigher (-)
Design card puncher (-)
Jacquard card puncher (-)
Cutting planner (+)
"Polidor de fios" (-)

Polimerizer (-)
Press or shape operator (-)
"Prensador de meadas (-)
Bath preparer (-)
"Preparador de cargas de bobines" (-)
Preparer for sewing and welding sacks or waxed cloth (-)
Size preparer (-)
Batch preparer (-)
Dye preparer (-)
Stenterer (-)
Sampler (=)
Nap collector (-)
Cutter/pinker or roller (-)
Pressure roll grinder operator (=)
"Recuperador de banhos" (=)
"Reforçador de quadros" (-)
"Remalhadeira" (-)
"Rematadeira" (-)
Drawing-in machine operator (-)
Comb mender (-)
"Refinador" (-)
"Retocador de tecidos (-)
Twister (-)
Sleeve inspector (-)
Inspector (-)
Labeller (-)
Dryer (-)
"Seladeira" (-)
Batch sorter (-)

Bobbin sorter (-)
Rag sorter (-)
"Solaineiro" (-)
High frequency welder (=)
Traveller replacer and ring cleaner (=)
Embroidery specialist (+)
Weaver (-)
Clipper (-)
Texturizer (-)
Dyer (-)
Torce" (-)
Handler (-)
Hand knitter (-)
Tufter (-)
Warper (=)
Steamer (-)
Water inspector (-)
Laboratory technician (+)
Probationer (=)

Some of the contributors to the survey agreed with this list. Emphasis was placed on the importance of printers (especially in the case of cotton) and dyers on quality and fashion introduced at the design stage, on sales techniques with direct attendance at foreign markets, the finish of the inside of clothes, style and waterproofing, the technicians who maintain and repair machinery, administration and personnel managers, foremen and overseers. On a more specific level, problems in the clothing mass-production sub-sector are not related to the training in groups or

enterprises of machinists or cutters but to production line leaders and foremen and stylists who create and/or adapt fashion. Organization of production time and methods and more standardization of models is also the concern of skilled personnel as well as those connected with mechanical warpers and tiers.

In the case of the principal sub-sectors:

- This report shows that the knitted fabrics sub-sector is a weak point, although it is known that there are more problems with these fabrics for underclothes than for outer garments. The whole sub-sector is in a state of development.

- In order to ensure conformation with specifications in the spinning, weaving and finishing of wool and mixed fibre and cotton and synthetic fibre sub-sectors, the following changes in equipment have gradually been made :

    - an increase in size
    - the introduction of hydraulic systems
    - the grouping of machines with similar functions linking them with mechanical and pneumatic conveyer systems
    - the introduction of new transmission systems (PIV and differential)
    - the introduction of pneumatic waste recovery systems
    - the use of mechanical, electromagnetic and

electronic components, thus providing a greater degree of automation and quality control the introduction of robotics and computer control of quality and production and other new techniques.

The result of these changes has been an increase in:

- the size of machinery
- speed
- productive capacity
- automation
- product quality
- variety of products
- demand for specialized operators
- use of maintenance machinery

resulting in:

- a tendency for equipment to become more complex and specialized thus reducing labour requirements
- greater production capacity, higher quality standards and less waste
- greater production capacity, more wear and increased maintenance requirements
- a need for workers to be more skilled
- intensive use of machinery and reduction in depreciation time.

Experience has shown that the use of machinery increases productivity, reduces labour requirements and waste thus compensating for its high cost. Although the cost of training is additional, it is an investment and aid may be provided by the authorities in association with enterprises.

Taking the list of skills into consideration, there are four stages in the manufacture of clothing - model creation and design, cutting, sewing and finishing. The new machines now available for sewing perform several operations at once but increased productivity always depends on the relationship of one operator per machine, which in turn increases the use of labour.

Developments at the finishing stage are mostly in the types of press and their automation; the industry in Portugal has been modernized and is competitive, at least for a short time.

In view of the low wages and aid for the acquisition of new technology, since low quality products cease to be competitive, investment in the future will have be in the creation and cutting stages, using Portuguese stylists (even for adapting fashion) and computerized cutting. The finished products industry has two big advantages:

- Labour is available for this activity

- Its feature of optimization of small quantities and diversity, unlike the wool and cotton sub-sectors.

Optimization involves making the best of the "centimetre instead of the large lots".

5.4 Conclusion and establishment of priorities

The wool and cotton sub-sectors are those which give rise to most concern - the weaving industry in the former and the spinning in the latter. The situation is more serious and general in the wool sub-sector since no investments have been made, contrary to the cotton sub-sector where some capital has been injected; no new technology has been introduced into the spinning and finishing industries. As we have already seen, the machinery is old and there are employment problems since, in order to produce the same product but of better quality than thirty years ago, the number of workers required in the weaving industry is now only one eighth of that required at that time and in finishing industry one sixth. Conditions are favourable for expansion of the knitted fabric and mass production clothing sub-sectors and Portugal has advantages which can be exploited through training and investment.

With the provision of social assistance, creation of alternative jobs, labour mobility, sectorial retraining and investment in new equipment, redundancy is inevitable, especially in Beira Interior and probably in Bacio do Ave. The problems will be easier to resolve if restructuring takes place. The employment and vocational training policy in conjunction with other policies makes available resources or conditions which can have a significant effect on

reducing the more negative consequences, including the difficulty of retraining within enterprises.

Characteristics of the training system designed for the textile and clothing sector are:

- teaching at secondary level with accent on theory, with difficulties in practical training owing to a shortage of resources and outdated methods and equipment (at least 15 years old)

- training centres and universities reasonably well equipped and up to date.

- initiation and development of cooperation between institutions and industry

- serious shortage of trained personnel to satisfy the requirements of industry, with less dependence on the authorized centres where the numbers and type of skills are agreed with the industrial associations, with a restriction on financial, physical and human resources.

In future it will be essential:

- to train middle and senior management, and increase the training capacity of universities, authorized and technological centres;

- to link skills taught in the textile and clothing industry with the use of computers and electronics not manual methods. Some group training is carried out in enterprises or in short courses but this is now not so common;

- for secondary schools to provide up to date theoretical training - important for ensuring suitability for jobs but not easy for schools to provide it. Some practical work is also required but in view of the high cost of equipment and rapid outdating it is only possible in cooperation with enterprises;

- to impart knowledge of equipment through training or practice, rationalize production (by planning, timing and methods) and train for the supervision, maintenance and repair of equipment - all skills which must be developed;

  We would also add skills associated with product design and finish (e.g. design, dyeing and printing) and marketing.

Enterprises play an essential part in this process because they must consider training as an investment and it is only they, with assistance from the State or in cooperation with institutions competent in the field, who know the number of skilled workers and types of skills required to ensure that training provides the vital complement to the education system.

Investigation along lines already anticipated at the technology centres and taken into consideration in investment aid mechanisms is clearly important when endeavouring to improve competitiveness.

In view of the difficulties of retraining older workers in some sub-sectors, a greater proportion of whom are found in sub-sectors to be restructured, redundancy will at first be greater than calculations indicate and will vary according to the state of the employment market in different regions.

We will attempt to forecast the importance of restructuring the Textile and Clothing Sector, again with reference to the Lei da Informação em Cooperação and the European Social Fund

In 1987 I.E.F.P. received requests for training 9 609 persons through 920 activities involving 46 textile enterprises and 35 clothing enterprises, of which 26 in each sub-sector were small and medium size enterprises. The types of training requested and the respective costs (in thousands of escudos) were as follows:

Initial training of young people	-	1 607 815
Vocational qualifications	-	694 256
Refresher courses and recycling	-	231 888
Retraining for introduction of new technology	-	635 353
Creation of new employment	-	232 880
Development of craftmanship	-	83 345
Integration of newly qualified personnel	-	57 969

Management training	-	60 456
Training of women returning to work	-	7 459
Introduction of the handicapped to employment	-	2 239
Training of trainers and development agents	-	14 886
Total		33 628 546

Costs according to enterprise size would be:

Small and medium size	3 209 224
Large	344 637
Others	74 685

These figures relate to applications and only serve to give an idea of actual requirements. Requests from the textile and clothing industry however only amount to about a quarter of the total requests received and the I.E.F.P. budget for all training activities only covers about half of all applications. Priorities are given mostly to measures for specific groups, investigation and innovation. If the budget is insufficient, priority is given to activities assumed to receive most aid from the European Social Fund.

The Department for European Social Fund Affairs (DAFSE) has applications relating to 15 000 persons in the Textile and Clothing Sector for 1987 (these do not even include I.E.F.P. applications). It is still not possible to provide a

detailed sectorial analysis of the situation. According to official sources however, although the Textile and Clothing Sector is not particularly large, there is no reason to believe that applications received by the I.E.F.P are different.

Finally, almost all enterprises concerned have considerably fewer than 100 employees, which is compatible with guidance from the E.S.F. which does not provide aid to enterprises in the Textile and Clothing Sector with more than 180 workers, or between 80 and 180 if aid would increase their productive capacity in any way.

NOTE: Appendixes are not being sent since whichever were selected the report would be too bulky. We will however send all appendixes considered necessary to complement any particular section.

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- Direcção Geral da Indústria (Lisbon) - Jaime Andrez
- Instituto do Emprego e Formação Profissional (Lisbon) - Mário Caldeira Dias
- Departamento de Estatística do M.T.S.S. (Lisbon) - Maria dos Anjos
- Instituto Nacional de Estatística (Lisbon) Serviço de Publicações
- Comissão Instaladora do Centro Tecnológico da Indústria Textil (Lisbon) - now defunct
- Centro Protocolar de Formação Profissional da Indústria Textil (Oporto) - Sr. Torres, Director
- Centro Protocolar de Formação Profissional do Vestuário do Sul (Lisbon) - Egª Ester Gonçalves, Directora
- Departamento para os Assuntos do Fundo Social Europeu (Lisbon) - Dr. Pinto Coelho, Director

- Comissão de Coordenação da Região Norte (Oporto) Engº Juvenal Peneda, Director de Serviços

- Comissão de Coordenação da Região Centro (Coimbra) Drª Maria dos Anjos Saraiva, Directora da área de Formação

Social partners

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- Federação dos Sindicatos dos Texteis, Rua Clemente Meneres nº 47, 1º. - Dr. Antero Leitão, Gabinete de Estudos

- Associação Nacional dos Industriais Texteis Algodoeiros e Fibras, Rua Gonçalo Cristóvão nº 96, 1º, Oporto - Dr. Aguiar de Carvalho, Secretário Geral

- Associação Portuguesa de Industriais de Malhas, Rua Alvares Cabral 191, r/chão - Dr. Mesquita Morais, Assessor do Secretário Geral

- Associação de Exportadores, Campo Alegre 276, 1º-Dtº Oporto - Dr. Anita de Carvalho, Secretário Geral

- Associação Nacional dos Industriais do Vestuário e Confecções, Campo Alegre 276, 1º Esqº-Dr. - Dr. Lemos Costa, Secretário Geral

- Associação Portuguesa dos Industriais de Vestuário - Rua Jacinta Marto, nº 2, 4º Esqº, Lisbon - Dr. Teixeira Mota, Secretário Geral

- Associação Nacional dos Industriais de Lanifícios, Largo D. Estefânia nº 17, 6º, Lisbon (head office in Covilhã) - Sr. José Cardosa, Membro do Secretariado

Educational establishments

- Escola António Arroio, Lisbon.
  Drs. Jóse Lucio and Isilda Lemos - Professores

- Escola Infante D. Henrique Porto,
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- Escola Campos de Melo-Covilhã,
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- Universidade do Minho, Guimarães,
  Professor Luis Guimaraes de Almeida - Professor

- Universidade da Beira Interior, Covilhã -
  Professor José Fiadeiro

Enterprises

- Maconde (Vila do Conde) -
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- Indústrias Têxteis Somelos, S.A.R.L. (Guimarães) -
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  Proprietário

Others

- Centro Internacional de Técnicos de Moda (Lisbon)

- Instituto de Arte e Decoração (Lisbon)

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